DOCUMENT RESUME

ED 109 966 HE 006 574

AUTHOR	Lavin, David E.
TITLE	Open Admissions at the City University of New York: A Description of Academic Outcomes after Two Years.
INSTITUTION	City Univ. of New York, N.Y. Office of Program and Policy Research.
PUB DATE	Jun 74
NOTE	448p.
EDRS PRICE	MF-$0.76 HC-$22.21 PLUS POSTAGE
DESCRIPTORS	*Academic Achievement; *College Credits; Colleges; Community Colleges; Comparative Analysis; Compensatory Education; *Educational Trends; Grades (Scholastic); *Higher Education; *Open Enrollment; Statistical Data
IDENTIFIERS	*City University of New York

ABSTRACT

This document studies academic trends in terms of credits earned, grade-point average, and the ratio of credits earned to credits attempted. Data on which the study is based were collected for freshmen who entered in 1970 and 1971. For the 1970 freshmen, academic outcomes were described over the course of the first four semesters. For the 1971 freshmen, academic outcomes were described for the first two semesters. Data on the first-year performance of the two classes were compared. Data were reported in aggregate for senior and community colleges: comparisons between individual CUNY colleges were also presented. Four major topics were considered: (1) academic performance of students (grade-point average and credit generation); (2) retention is related to academic performance; (3) the impact of compensatory programs upon retention and academic performance; (4) comparison of academic outcomes for SEEK and non-SEEK students. SEEK stands for Search for Education, Elevation, and Knowledge and is a forerunner of the open admissions program at CUNY senior colleges. (Author/KE)

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OPEN ADMISSIONS AT THE CITY UNIVERSITY OF NEW YORK:
A DESCRIPTION OF ACADEMIC OUTCOMES AFTER TWO YEARS

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June, 1974

HE 006 574

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NOTE: The need for this summary was indicated by the length of the original report (over four hundred pages), prepared by Professor David Lavin. This summary highlights the findings contained in the original report, copies of which may be obtained from the CUNY Office of Program and Policy Research, 535 East 80th Street, New York, N.Y. 10021. A check or money order for $5.00 for each report (made payable to the Board of Higher Education) must accompany each order.

Open Admissions at the City University of New York: A Description of Academic Outcomes after Two Years, is another in a continuing series of reports on open admissions compiled by the CUNY Office of Program and Policy Research. An earlier report (Student Retention Under Open Admissions at the City University of New York: February, 1974) dealt with general trends in student retention at the City University of New York during the period, September 1970 through June 1972. The new report studies academic trends, in terms of credits earned, grade point average, and the ratio of credits earned to credits attempted.

Data on which the study is based were collected for freshmen who entered in 1970 and 1971. For the 1970 freshmen, academic outcomes were described over the course of the first four semesters. For the 1971 freshmen, academic outcomes were described for the first two semesters. Data on the first year performance of the two classes were compared. Data were reported in aggregate form for senior and community colleges: comparisons between individual CUNY colleges were also presented.

Four major topics were considered:

- Academic performance of students (grade point average and credit generation);
- retention as related to academic performance;
- the impact of compensatory programs upon retention and academic performance;
- comparison of academic outcomes for SEEK and non-SEEK students.

Based on high school grades received in English, foreign language, mathematics, science and social studies, analyses were conducted within certain high school average categories as follows:

High School Average	Senior College Classification	Community College Classification
Less than 70%	Level B	Level B
70.0 - 74.9%	Level A.1	Level A
75.0 - 79.9%	Level A.2	Regular 1
80.0% or above	Regular	Regular 2

At senior colleges open admissions students are in the Level B, Level A.1, and Level A.2 categories. At community colleges the open admissions students are in the Level B and Level A categories. These definitions allow one to compare senior and community college students at all levels of high school average.

ACADEMIC SUCCESS

Two types of academic performance analyses were conducted for senior and community college students. First, the 1970 and 1971 enrollees were compared on various measures of academic success in their first year of college. Second, academic performance over two years was described for the 1970 freshmen.

For both analyses, four academic measures were used: 1) Grade Point Average, 2) Credit Generation, 3) Credit Ratio, 4) Grade Point Average and Credit Generation considered simultaneously. The "success" criteria were set as follows:

Performance Variable	One Year Analyses	Two Year Analyses
Grade Point Average	% with 2.00 or better	% with 2.00 or better
Credit Generation	% earning 24 or more credits	% earning 48 or more credits
Credit Ratio	% earning at least 3/4 of credits attempted	% earning at least 3/4 of credits attempted
Credits & Grade Point Average Considered simultaneously	2.00 or more GPA & 24 or more credits	2.00 or more GPA & 48 or more credits

Aggregate findings for the one year analyses are summarized for the senior colleges in Table 1, and for the community colleges in Table 2. For the senior colleges, Table 1 indicates that high school average was positively related to every performance measure. That is, the higher the average, the greater the likelihood that students would equal or exceed the minimal success criteria. With regard to grade point average and credit ratio, no significant changes were observed for the 1970 and and 1971 freshmen.

This was not true for the credit generation variable. Here we note significant decreases for every level of student (except regular) in the 1971 cohort. This is probably due to the more systematic implementation of the policy of reduced credit loads in 1971. As a result of this policy, a smaller proportion of 1971 freshmen simultaneously earned 24 credits and at least a 2.00 grade point average.

TABLE 1

Summary of One Year Academic Performance Analyses:
Comparison of 1970 and 1971 Enrollees (Senior Colleges)

LEVEL

Performance Measure	B		A.1		A.2		Regular	
	70	71	70	71	70	71	70	71
Grade Pt. Average	33% (349)	32% (290)	43% (1282)	44% (1444)	65% (3360)	63% (3090)	87% (9196)	87% (8557)
Credits Earned	20% (352)	7% (293)	34% (1291)	21% (1460)	51% (3371)	41% (3095)	76% (9203)	74% (8567)
Credit Ratio	53% (336)	56% (283)	65% (1266)	67% (1418)	79% (3327)	78% (3035)	92% (9162)	92% (8506)
Credits Earned & Grade Pt. Average	13% (349)	5% (290)	23% (1282)	16% (1444)	43% (3360)	36% (3090)	71% (9196)	71% (8557)

Among the community college students, Table 2 shows that for every increase in high school average, there is an increase in the proportion of students attaining each success criterion. With regard to comparison of the 1970 and 1971 freshmen, no large differences were found. By and large, the picture is one of consistency.

TABLE 2

Summary of One Year Academic Performance Analyses:
Comparison of 1970 and 1971 Enrollees (Community Colleges)

Performance Measure	LEVEL B 70	B 71	A 70	A 71	Regular 1 70	Regular 1 71	Regular 2 70	Regular 2 71
Grade Pt. Average	44% (2054)	44% (1553)	57% (2471)	60% (2081)	72% (1818)	75% (1700)	86% (852)	89% (831)
Credits Earned	27% (2058)	25% (1560)	39% (2472)	39% (2087)	54% (1820)	48% (1701)	68% (852)	64% (832)
Credit Ratio	75% (1993)	70% (1486)	83% (2417)	80% (2033)	87% (1792)	88% (1676)	94% (844)	94% (828)
Credits Earned & Grade Pt. Average	20% (2054)	20% (1553)	32% (2471)	34% (2031)	49% (1818)	45% (1700)	66% (852)	62% (831)

Aggregate findings for the two year analyses (1970 freshmen) are presented in Table 3.

TABLE 3

Summary of Academic Performance Analyses after Two Years
for Senior and Community College Students who Enrolled in Fall, 1970

	Type of College							
	Sr. Level	Comm.	Sr. Level	Comm.	Sr. Level	Comm.	Sr. Level	Comm.
Performance Measure	B	B	A.1	A	A.2	REG 1	REG.	REG.2
Grade Point Average	35%	48%	50%	66%	70%	82%	90%	93%
Credit Generation	25	36	39	50	55	65	79	79
Credit Ratio	65	75	72	88	82	92	93	98
Credit & GPA	17	29	30	44	48	62	76	78

The summary findings show that the stronger the high school average, the stronger the performance record in college. Moreover, for every level of high school average, community college students were more likely to achieve the success criteria than their senior college counterparts. The only exception to this occurred for the Regular (senior) and Regular 2 (community) students, where the performance levels were essentially the same.

The aggregate data tend to mask the fact that there is considerable institutional variation. That is, at some colleges students were much more likely to achieve various success criteria than at other campuses. While there were variations depending on the particular high school average category being considered, in general senior college students at Lehman, Brooklyn, and York were the most likely to attain the thresholds defined by the success criteria. Among the community colleges, students at Kingsborough and Borough of Manhattan Community College made the strongest showing.

The individual college data do not lend themselves to easy interpretation. Differences in the composition of the student bodies, possible differences in academic standards, effects of differential retention rates, differences in grading policies, and differential effectiveness of educational policies, may, alone or in combination, explain differences in student academic performance.

RETENTION AND ACADEMIC PERFORMANCE

Retention data -- published in the earlier report -- were again considered for the first two freshman classes entering CUNY since the inception of open admissions. These classes were compared with regard to retention rates. The relation of these rates to various characteristics of student academic performance were then considered.

Among the senior colleges, Table 4 shows that after one semester, students with high school averages of above 80 had higher retention rates than students with averages below 70. The data also show almost no change between the 1970 and 1971 cohorts in the proportions returning for the second semester of the freshman year.

TABLE 4
Comparison of 1970 and 1971 Cohorts: Retention Rates
After One Semester by High School
Average
(Senior and Community Colleges)

High School	SENIOR COLLEGES		COMMUNITY COLLEGES	
Average	1970	1971	1970	1971
80+	93% (9952)	92% (9294)	80% (1067)	85% (915)
75-79	88% (3845)	87% (3582)	81% (2258)	84% (2036)
70-74	86% (1508)	86% (1703)	79% (3163)	80% (2618)
Less than 70	81% (434)	83% (352)	76% (2774)	77% (2031)
TOTALS*	91% (15739)	90% (14931)	79% (9262)	81% (7600)

*Students with no high school average excluded.

In general, academic performance of senior college students during the first semester of the freshman year was positively associated with retention. Students who achieved at least a 2.00 average, who earned 12 or more credits, and who earned at least 75% of the credits they attempted, were more likely to return for their second semester than students who failed to achieve these criteria.

Of all academic indices, credit ratio (the percent earning at least 3/4 of the credits attempted), was most closely related to retention. All academic performance indices seemed to be more closely related to retention than high school average itself. That is, students who failed to meet the minimal performance criteria (2.00 GPA, 12 or more credits, .75 credit ratio), were more likely to drop out, regardless of high school average. The relation between performance criteria and retention was substantially the same for both the 1970 and 1971 cohorts.

Among the community colleges, Table 4 shows that one semester retention was positively associated with high school average; however, academic performance was more closely related to retention than high school average. That is, a student's academic performance in his first term of college was a better predictor of retention than his high school performance. This appeared to be borne out by the fact that the likelihood of dropout was frequently greatest among "regular 2" students whose academic performance was weak in their first collegiate semester.

COMPENSATORY PROGRAMS

Background: When CUNY began its open admissions program, it anticipated that substantial numbers of students would be deficient in basic academic skills. Accordingly, each campus was to develop its own compensatory programs aimed at upgrading these essential skills. It was presumed such programs would increase the chances that students would be able to complete successfully a course of study leading to a degree. Moreover, the compensatory effort was seen as a major factor in avoiding the revolving door (high attrition rates) which had characterized open admissions programs in other places.

While every campus was asked to develop some compensatory program structure, the specifics of implementation were left to the discretion of each campus. The result was considerable variation in styles of response.

However, in almost every case the compensatory effort involved at least two basic components: (1) Formal remedial courses (which initially offered little or no credit); (2) a policy of reduced credit loads during the freshman year (intended to ease the more poorly prepared student gradually into the mainstream of college work).

The Study: The study assessed the relationship between remedial courses and reduced credit load, and student academic performance. The measures of academic performance were grade point average, credit generation (in the sophomore year), credit ratio, and retention.

Remediation was considered to be effective or "successful" if, within any category of high school average, those who received it performed as well or better than those who did not receive it. Reduced credit loads were considered effective if those who attempted less than 12 credits in a semester (or less than 24 in a year) performed as well or better than those not on reduced loads.

This criterion is based on an important assumption: that those taking remediation or reduced credit loads had lower levels of academic skills as measured by the Open Admissions Test (OAT). Comparisons of remedial and non-remedial students showed that the former usually did, in fact, have lower OAT scores.

As measured by the Open Admissions Test, the need for remediation was closely associated with high school average. Moreover, the need was slightly greater for the 1971 freshmen than for the 1970 group. At the senior colleges over 80% of level B students needed some form of remedial work. Among level A.1 students 53% (in 1970) and 66% (in 1971) needed remedial work. For level A.2 students 31% (in 1970) and 39% (1971) required such work. Slightly less than 15% of regular students showed a need for at least some remediation.

At the community colleges, the need for remediation was greater than for the senior colleges, with the exception of level B students, where the need was greater at the latter.

For both senior and community colleges, there was considerable variation from campus to campus in the proportions needing remedial work. There was also considerable variation in the proportions doing such work.

Various sets of analyses were conducted in an effort to assess the relationship of remediation and reduced credit load to academic outcomes.

Findings:

Remediation

For the senior colleges, remediation seems to have been a mixed success during the freshman year. That is, while remedial experience did not always show positive effects upon academic performance, neither did it show an overall negative effect. Moreover, the record of success varied from college to college. The evidence suggests that remediation seemed somewhat more effective in the second year of open admissions than it was in the first year. This may be interpreted as an indication of progress.

At the community colleges numerous instances were found in which remediation seemed to improve student academic performance. These occurred for every college, but overall, the college where these effects occurred most frequently was Kingsborough.

Insofar as retention is concerned, senior college students who took remedial work in their first term of college were as likely to continue for their second semester as those who took none. In short, the remedial experience had some positive effect on student retention. The findings for the community colleges are similar. Remediation seemed to increase the one semester retention rates.

The effects of compensatory programs on academic performance in the second year were also considered. Such data view the effects of compensatory programs *after* they have occurred, rather than simultaneously with their occurrence, as in the first set of analyses.

Although the analysis showed little evidence to indicate positive effects of first year remediation on academic performance in the sophomore year at all senior colleges, improvement in student performance was noted at certain individual campuses. Particularly at Baruch College, City College, and York College it appears that the remedial experience of the freshman year generated positive effects on the academic achievement of students in their sophomore year.

For the community colleges the data suggest that the freshman remedial experience generated improvement in academic performance in the sophomore year at all campuses. Among individual colleges, Kingsborough was the campus where the effects were most noteworthy.

Findings:
Reduced Credit Load

The evidence indicates a few instances in which senior college students who took reduced loads performed as well as those who attempted a full number of credits. In particular, level B students in 1971 who took reduced loads approximated the performance of those not restricted.

Sophomore year performance showed some positive effects of reduced credit load on academic performance at some senior colleges. This occurred at Baruch, City, Hunter and York Colleges.

In the senior colleges, the relation of credit load restriction to retention after one semester is as follows: Students who took "moderately" reduced loads (between 8 - 11.99 credits) were about as likely to return for the second term as those who took full loads. However, those who took severely reduced loads (less than 8 credits) were less likely to be retained for the second semester than those who took full loads.

At the community colleges the results regarding the effects of reduced credit loads were not encouraging. The few positive effects noted were for students on moderately reduced credit loads as compared with those on severely reduced loads. The retention of students who took severely reduced loads was lower than the retention of unrestricted students in the same high school average category. Aggregate findings for the community colleges show no positive effect on academic performance in the sophomore year.

Conclusion:

The outstanding fact emerging from the research on compensatory programs is variability of results from one campus to another. Those campuses which have obtained positive results will provide a basis for future modifications in open admissions program implementation on all campuses. Results from individual campuses must be scrutinized with care. Based on its own successes and failures, each campus continues to modify its program from one year to the next. The effect of such changes should be researched, analyzed and assessed before they are adopted on a system-wide basis.

COMPARISON OF SEEK and non-SEEK STUDENTS:

SEEK and non-SEEK students were compared with regard to academic performance, retention, and effects of compensatory education programs.

Based upon performance on the Open Admissions Test, the SEEK population contains much higher proportions of academically disadvantaged students at every level of high school average than the non-SEEK population. Parity in performance with non-SEEK students of comparable high school average was therefore used as the criterion for determining academic success of the SEEK group.

During the freshman year of college, SEEK students who entered in 1970 (particularly level B's and A.1's who account for most of this group) were superior to the non-SEEK group in the proportions achieving a C average. Their credit ratios were also comparable, but the credit earning performance of the SEEK students was substantially below that of the non-SEEK students, a finding directly attributable to the SEEK policy of initial restricted credit loads. The freshman year data for the 1971 group suggest the same conclusion, except that the difference in credit productivity is smaller (due probably to the fact that 1971 non-SEEK freshmen were more likely to have credit restrictions than was the case in 1970).

The likelihood of 1970 SEEK freshmen - most of whom are level B and A - attaining a C average over the two-year period was about the same as for the non-SEEK students. However, the SEEK group was less likely to have earned 48 or more credits over the period.

Trend analyses also showed that in the second year of college, SEEK students attempted more credits than they did in their freshman year, and that their credit earning performance in the sophomore year was not as far below the non-SEEK students as it had been in the freshman year. Indeed, SEEK students increased their credit generating performance in their sophomore year, while the non-SEEK students showed a slight decrease.

The retention data showed that during the freshman year of college the one-semester retention of SEEK students was equivalent to that of the non-SEEK group. This was true for both the 1970 and 1971 cohorts.

Inasmuch as the SEEK group has characteristics which would lead one to expect lower retention rates, this is a favorable outcome.

Over the period of four semesters for the 1970 freshmen, we found that the net retention rates for the SEEK students were slightly higher than for the non-SEEK students (with the exception of regular students, where there was a slight difference in favor of the non-SEEK group). Among dropouts, the SEEK return rates were slightly higher than the non-SEEK rates.

Compensatory outcomes were compared in terms of two factors: remediation and restricted credit load. Remedial coursework in the freshman year showed little effect on the first year academic performance of SEEK students in the 1970 cohort. In contrast, some effects were noted for the non-SEEK students. For the 1971 freshman, the remedial experience did show effects on academic performance for both groups, but the effects were somewhat stronger for the SEEK students. With regard to one semester retention, SEEK and non-SEEK students in both cohorts were helped by the remedial experience.

With regard to restricted credit load, there were some effects for the 1970 freshmen, and these were more likely to occur for SEEK than for non-SEEK students, but overall, credit restriction did not exert any strong effects on academic performance. For both SEEK and non-SEEK students a moderate rather than a severely restricted credit load increased the likelihood of retention.

Analyses showed positive effects of freshman year compensatory programs on academic performance in the sophomore year. These effects were stronger for the SEEK students than for the non-SEEK group.

Overall, based on parity of performance, data showed that SEEK students were doing quite well in comparison with their non-SEEK peers.

A Note on Limitations:

The initial problems generated by the short lead time in planning and implementing the open admissions program had repercussions in the area of research. As a federation of colleges, the university was unprepared to deal with research requiring uniform data. There were, for example, about 60 different letter grades used by the colleges, all of which had to be codified and synthesized into a single data base.

There were other problems. Some campuses were unable to provide data in the form requested, and with satisfactory levels of reliability. Thus, John Jay College, Bronx and Hostos Community Colleges are excluded from the 1970 group (except for certain retention estimates). LaGuardia Community College and Medgar Evers College only began in 1971. The former was not included in every analysis, because its quarter system of student work-study (cooperative education) made available data incompatible with other colleges in the system. The necessary work will be completed for the inclusion of all colleges in subsequent reports.

A second limitation of the data concerns missing students. The files for both the 1970 and 1971 freshman classes are now complete. Analyses indicate that the students excluded in this study do not introduce any significant bias into the results.

A third limitation of the data concerns the fact that there are students in our files for whom no information on high school average is available. This is a result of several factors, including high school equivalency diplomas (for which no average is computed) and residency outside New York City. However, data for students with "no high school average" are presented in this study. Where possible, updating of high school average information has been completed.

There have been substantial recent improvements, both in the university's data collection system and especially in its computer capability. These improvements will ultimately reduce the limitations under which data for the first two years of open admissions were collected. A significant reduction in the time lag between report generation and time periods covered by the data should also result. While data in this study are two years old, CUNY is rapidly moving to the point where this time lag should be cut in half.

PREFACE

Professor David Lavin has prepared this report as another in the series of reports describing the performance of students admitted since the implementation of the open admissions policy. He accepted this assignment some years ago -- before any student performance records were kept centrally and before many colleges had computerized information systems. To accomplish his mission, Professor Lavin and his associates had to undertake the laborious tasks of collecting and editing, correcting and updating, tens of thousands of records.

Last year, based upon these efforts, he (with Professor Barbara Jacobson) produced a report, "Open Admissions at the City University of New York: A Description of Academic Outcomes After Three Semesters." Since then, the tasks of collecting information on student performance and preparing it for tabulation have become a responsibility of the CUNY Office of University Management Data. Based upon the information supplied by this Office, Professor Lavin produced this new report.*

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* Because of great public interest, some of the data on student retention included in this report was reported upon earlier. See David E. Lavin and Richard Silberstein, "Student Retention Under Open Admissions at the City University of New York: September 1970 Enrollees Followed Through Four Semesters."

In the future the reporting of descriptive data concerning student performance will be the responsibility of the CUNY Office of Program and Policy Research. Professor Lavin will continue to participate in research related to open admissions but, relieved of the responsibility of routine reporting, he will be free to focus upon analyses in depth. Professor Lavin undertook a difficult, time-consuming, frustrating, and even unpopular assignment. The City University owes him and his associates a debt of gratitude for a job well done.

Lawrence Podell
University Dean for
Program & Policy Research

ACKNOWLEDGEMENTS

Numerous individuals and groups have contributed significantly to the open admissions research project of which this report is one product. I want to acknowledge my appreciation of their efforts.

Deputy Chancellor Hyman and Dr. Lawrence Podell, University Dean for Program and Policy Research, have been most supportive and have facilitated the research, both intellectually and in other ways.

Richard Silberstein has been the person most closely associated with this report. His contributions to the planning of data analyses, and, particularly, to the computer work have been outstanding.

Irene Shrier has also made important contributions to all phases of the project, including statistical work and editing.

This project has also benefitted from the earlier participation of Professor Barbara Jacobson Kendrick, my colleague at Lehman College. She will continue her research, focussing upon certain important aspects of open admissions at CUNY.

Mr. Lewis Sunderland and his staff in the Office of University Management Data have carried out the difficult and arduous tasks of data collection and the continuing development of a student information system. Several people have been responsible for these functions. Pat Curran and Lee Vandiver were most closely involved with the collection of student performance data and related information. Marianne Williams and her associates did an excellent job in preparing the very complex data files and converting them to a form suitable for our statistical analyses.

Dean Kenneth King and his superb staff at the new CUNY Computer Center greatly facilitated our work by providing technical consultation and generous cooperation in other ways.

Florence Sponder did a very fine job of overseeing and helping to coordinate the various administrative tasks connected with our work. In addition, she contributed significantly to the design of formats for the statistical tables.

Gilda Cooper and her associates in the two central office Word Processing Centers were most cooperative and did an excellent job with the difficult task of typing the manuscript and tables.

The support of the Exxon Education Foundation has been of great importance to our work. Just how important its contribution has been will become increasingly clear, as subsequent reports are completed.

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CHAPTER 1

INTRODUCTION

This report considers numerous aspects of student academic performance over the first two years of the City University's open admissions program. It represents an extension and amplification of a prior study (Lavin & Jacobson, 1973). The report is primarily descriptive. That is, it is largely devoid of interpretive commentary, and while it provides some basis for evaluative judgements, it is not, strictly speaking, to be construed as an evaluation of the open admissions program. However, simply to describe is not very meaningful. The facts must be evaluated. If not done by us, others will provide their own evaluations. Even if done by us, different and conflicting evaluations will be made by others, proceeding from different values and criteria for defining the "success" of open admissions.

The evaluation of some types of experimental programs is rather straightforward. For example, the evaluation of a new treatment for cancer is a relatively unambiguous process. Ideally, one uses a standard control group design which allows one to assess the effects or "success" of the treatment factor. It seems reasonable to assume that if the survival rate among those exposed to the treatment is significantly higher than among those not so exposed, everyone would consider this desirable, and furthermore, the definition of the goal, as well as the measurement of outcome is clear.

However, when people ask whether open admissions is successful, one is on entirely different terrain. First, there are multiple goals, and there may be disagreement about what the goals should be. Second, there is much room for disagreement about the importance of different goals relative to one another. Third, the criteria defining goal attainment are ambiguous, and even if this were not the case, measurement of the criteria is frequently difficult.

The CUNY open admissions program was born in controversy, and controversy continues to surround it. To a considerable degree the conflict results from the complexity of the program and of the goals. When the question, "is open admissions a success?" is asked, many are unaware of the ambiguities underlying this apparently simple query. As a result, discussions tend to be simplistic. While we do not attempt here to provide a set of criteria and accompanying indicators for defining the success of open admissions (indeed, the task may be impossible to achieve), we do believe that the level of discussion might be raised somewhat if we could at least specify some of the complexities involved. We wish to attempt some clarification.

GOALS OF OPEN ADMISSIONS

We begin with a consideration of the goals of open admissions. When the program was initiated there were at least five goals which were stated either explicitly or implicitly. We list these goals (not necessarily in order of importance) as follows:

1. To increase access to the university on the part of minority group students.
2. To avoid the high attrition rates which have frequently characterized open admissions models in other universities (e.g. "the revolving door" feature).
3. To maintain high academic standards, particularly through the development of massive compensatory programs designed to upgrade the academic skills of large numbers of students who, on the basis of traditional admissions criteria, would not have gained access to the university.
4. To assure that students would move through their college careers at a satisfactory rate of progress, while meeting at least the minimal standards defining academic success.
5. To intervene in the perpetuation of the poverty-welfare cycle so characteristic of substantial segments of the population of New York City. This latter goal views the acquisition of educational credentials as a crucial mechanism for interrupting the poverty-welfare cycle.

Each of the above has generated controversy.[1] In particular, disputes arise over the definition and indicators of goal achievement and whether progress is being made toward attainment. We would like to explicate some of the issues involved with each aim.

Access for Minority Groups

In a sense the goal of increasing the proportion of minority group students at CUNY was achieved almost by definition. Indeed, data previously reported (Lavin & Jacobson, 1973) showed substantial increases in the proportion of Black and Puerto Rican students attending the university. At the same time, it is true that white students were in fact the prime beneficiaries of the new policies. A common public misconception has been that open admissions is a euphemism for Black and Puerto Rican admissions. The facts indicate that all groups have benefitted from the increased access provided by the open admissions policy. However, the increase in the participation of minority group students has generated further controversy. In particular, there has been concern over the fact that the proportion of Black and Puerto Rican students varies considerably from campus to campus. This has raised the question of "balance" in the distribution. To a great extent campus differences in ethnic composition are a function, not of CUNY admissions and allocation policies, but rather of student preferences and the physical location of campuses in relation to the demographic characteristics of the neighborhoods surrounding them. The question for the university has been whether to allow ethnic composition of campuses to remain primarily a function of student preferences, or whether to intervene in order to assure some level of integration on all campuses. While stating this issue, we point out that it is beyond the scope of this report which is limited to student academic performance under open admissions.

Avoiding the Revolving Door

We assume that all would agree that the avoidance of low retention rates is a worthy goal (assuming of course the maintenance of "academic standards"). A primary reason for the significance of retention in defining the success of an educational program, is that retention provides, at any point in time, an indicator of who may be expected ultimately to graduate. Of course, the difficult question involves the specification of those retention rates which would indicate that the revolving door was or was not occurring. Among those students who would not have been admitted to the university prior to open admissions, one can always say, no matter what the ultimate graduation rate is, that as long as it is greater than zero, success has been achieved. Thus, if the graduation rate for those students was five percent, one could say that this represents five percent of a group which would never have gone to college under traditional admissions criteria. The question is, is anything above zero a success? At the other extreme, is anything less than parity a failure? That is, if one establishes a baseline describing the proportion of traditional (e.g. non-open admissions) students who ultimately attain the B.A. degree (or A.A. degree in the community colleges), is any rate that is lower than this among open admissions students to be considered an indicator of failure of the open admissions program? We consider both extremes to be unrealistic and inappropriate indices for the definition of success. That is, an eventual graduation rate of only five percent is probably unacceptably low. On the other hand, to expect these new types of students to achieve in a manner identical with traditional students is also inappropriate. A reasonable criterion lies somewhere in between, except that "somewhere in between" covers a huge area. It has sometimes been stated that if 30% of open admissions students ultimately graduate, this would be deemed evidence of success. One could define this as the "official" indicator of success, but it is as arbitrary as some other level. It is this inherent arbitrariness which subjects retention data to controversy, since one person's definition of success may be another's indicator of failure.

Ultimately the definition of an acceptable graduation rate must be tied to other values. For example, if a certain percentage of open admissions students eventually attain a degree, and if this credential has the effect of raising the level at which students enter the occupational system, then there may be an economic return both to the student and to the public from the initial public investment in a student's education. If we are talking about students who come from families requiring public assistance, then the impact of the educational credential may be even greater. One could, in this very complex and long run manner, attempt to define the cost and returns of different graduation rates. However, this is obviously something which cannot be done in the short run, and therefore, it does not help right now to resolve the issue.

In this report we have attempted to provide some guidelines for assessing CUNY retention data, by camparing them with national data. However, the national data are not strictly comparable with regard to time periods, and therefore, this approach is not as satisfactory as it might be.

Academic Standards

A third goal which has been considered crucial for the open admissions program has been that academic standards should be maintained. In many ways this is the murkiest of all open admissions aims, and the most intractable from the point of view of definition and relevant data.

There are some who define academic standards as a function of "input". That is, academic standards are defined by the quality of an entering freshman class. In general, quality itself tends to be defined on the basis of standardized test scores such as the Scholastic Aptitude Test or other comparable tests. For those who adhere to this conceptualization of standards, open admissions must, by definition, result in a decline of standards. It is at this point that the question of standards becomes intertwined with the question of retention. A frequently stated view is that the two are, and must be, mutually exclusive. That is, if retention rates are high, this, by definition, indicates that standards have become lower. Conversely, if retention rates are low this at least suggests that academic standards are being maintained. In terms of the interaction of the university with some public constituencies, CUNY frequently finds itself in this "double bind" situation. However, those who see retention and academic standards as mutually and necessarily exclusive assume a rather defeatist position. What they are really saying is that open admissions students are academically hopeless (incorrigibly hopeless), and given this assumption, high retention must mean the diminution of standards and conversely, low retention implies the maintenance of standards. To accept this formulation, one would have to abandon the open admissions effort. To be sure, the university expected that with open admissions, substantial numbers of students would be entering with deficient academic skills. As a response, compensatory programs were initiated. The primary aim of these programs was to upgrade the level of student academic skills so that they could successfully complete college work. This report presents data assessing early outcomes of the compensatory effort. It indicates that the effort has, to some degree and at least on some campuses, raised the academic performance levels of students. Of course, it does not follow that they have been raised sufficiently. This is perhaps a question which cannot be answered at the present time.

In any event, we believe that any conception which defines academic standards in terms of the quality of students at the time of entry to the university is inappropriate, since obviously the "quality" of open admissions students will, by traditional measures, be lower than was the case prior to open admissions.

Another conception would define academic standards according to the extent to which students can now meet the expectations of faculty, and the extent to which the expectations of faculty correspond to pre-open admissions levels. Here, the focus is on what is actually happening in the classrooms. To what extent have professors, as a result of open admissions, changed their expectations in the classroom? In particular, have they changed the content of their lectures or discussions? Have they, in any way changed the quality or quantity of reading assignments? Have their grading patterns changed? With regard to these questions, it is our opinion that no satisfactory data exist. Instead, what is available are testimonials, sometimes from disillusioned professors who frequently were opponents of the open admissions policy from its inception, while, on the other hand, there are testimonials from those who are strongly committed to the policy. We lack systematic data from a large and representative sample of faculty members assessing the impact of open admissions upon their classroom behavior and interaction with the students.[2]

While we believe that the focus for defining academic standards lies more appropriately in the classroom than in the quality of incoming students, to locate standards in the arena of faculty-student interaction also has limitations, if the maintenance of standards is to be defined in terms of the extent to which faculty expectations and behavior adhere to the pre-open admissions model. There was a time when a knowledge of Greek and Latin was required for graduation. When this requirement was abolished, did it signify a decline in academic standards? Was it a decline in academic standards when, during the 1960s, major universities instituted pass/fail systems, and eliminated other kinds of previously required courses? To a great extent the definition of academic standards must be viewed in the perspective of the clientele being served by universities at a given historical period. They are also defined by the requirements of society for certain kinds of skills and, of course, these societial needs change through time. Without question CUNY's clientele has changed, in large part, as a result of open admissions. To hold to the idea that the expectations of faculty should not change, and that the content of curricula should not change, and that techniques of teaching should not change, if standards are to be preserved, is to say that the university should abdicate its responsibility to adapt to changing circumstances.

There is yet another way of defining academic standards. This involves the performance of CUNY students on criteria independent of grades. Certain pre-professional curricula are designed to prepare the student to meet professional qualifying criteria. For example, graduates of nursing programs frequently must take state nursing examinations, accounting students must pass state administered C.P.A. exams, and, in general, students who wish to go on to graduate school must frequently take the Graduate Record Examination. One indicator of CUNY standards is the extent to which its students perform creditably on such outside criteria.

The preceding comments do not resolve the issues. Their purpose is simply to indicate that questions of standards and the evaluation of whether they are being maintained, cannot be approached simplistically, as they often are in the media and in other public discussions. While we do not offer a definition here, we think the above discussion at least indicates that any definition and evaluation of academic standards must involve multiple criteria. In addition, further research is required in order to clarify some of the issues.

Rates of Academic Progress

When the open admissions program began, it was generally expected that students attending four year colleges would require more than four years to complete their studies. Similarly, it was expected that more than two years would be required at the community colleges. Nevertheless, it was hoped that students would complete their studies within a "reasonable" amount of time. The traditional expectation of a B.A. within four years and an A.A. within two years was not applied under the open admissions program, since it was anticipated that substantial numbers of students would spend a significant number of hours during the freshman year taking compensatory work, and, in many cases, reduced credit loads designed to ease students more gradually into the mainstream of academic work. For the time period covered by the data of this report, it is impossible, in the case of the four year colleges, to estimate the proportion of students who will graduate in four years. It is possible to make some estimate of proportions of students who complete community college in two years. In the latter case we shall see that the proportion is quite low. However, it is important to note that the traditional expectations have never been very appropriate for the case of CUNY. A study conducted in the 1960's(Max, 1968) indicated that only 50% of City University students obtained B.A. degrees within four years. However, about 75% attained degrees over a seven year period. Since this study focused on a highly able pre-open admissions cohort, one would be surprised to find current graduation rates over four years or two years approximating those of the pre-open admissions era. Nevertheless, the question of "reasonable" progress remains ambiguous. If one insists on a high graduation rate after four years, CUNY will clearly not succeed in reaching this goal. On the other hand, if students require 10 years for the completion of studies, this would not seem acceptable. What is reasonable lies somewhere within these extremes, but we are not prepared to define the most appropriate indicator of success in this regard.

Open Admissions and Occupational Mobility

The fifth goal of the program stated above was that the open admissions program should be a significant mechanism for interrupting the poverty-welfare cycle to which many in New York City are subject. This goal is critical and perhaps represents a primary motivation for college attendance, particularly among students from economically marginal families. Obviously, it is too early to assess the impact of open admissions on occupational outcomes for its graduates. While beyond the scope of this study, it is apparent that this crucial aspect of open admissions will require a very complex research effort. Such research is in the planning stages.

FOCUS OF THIS REPORT

This is the second in a continuing series of reports on open admissions compiled by the CUNY Office of Program and Policy Research. Data are presented for the first two classes (the 1970 and 1971 freshmen) which have entered since the inception of the program. For the 1970 freshmen, the report describes academic outcomes over the course of the first four semesters. Data are also prsented for the 1971 cohort for the first two semesters. Over the two semester period, we compare the performance of the two classes. The study considers data in aggregate form for the senior colleges and for the community colleges, respectively. In addition it presents comparisons for the individual CUNY campuses.

In many ways the individual comparisons are more important than the aggregate data. Because campuses had a great deal of autonomy in implementing the broad guidelines for open admissions which were initially formulated by the Board of Higher Education (in consultation with the campuses), there is a sense in which there is not one open admissions program, but rather seventeen (one for each campus). From a policy perspective, we believe that the initial diversity was fortunate. The CUNY plan could not draw upon a great body of experience, either within the university or in other places. Therefore, from a pragmatic point of view, to allow each campus to develop and pursue its own open admissions style meant that some would probably have more impact than others. Such differences among campuses would thus allow identification of those programs which were most potent. In the long run therefore, the individual experience of each campus would provide a basis for future modification and improvement of policy on all campuses. To identify differences among campuses in academic outcomes, and to relate these to differences in types of programs, is the central aim of our research.

While this is the aim, we have not yet reached the point where the description of inter-campus variations can be interpreted in terms of differences among campuses in program components. Rather, the aim of this report, as in the previous study, is primarily descriptive.

Organization of this Report

The report consists of six chapters. Chapter 2 presents data concerning various indices of academic success. By "success" we refer to those aspects of student performance which are necessary for graduation. In particular, we focus upon the grades achieved by students and their credit earning proclivities.

Chapter 3 deals with phenomena of retention. It considers the relationship between academic performance and retention rates. It also includes the data presented in an earlier report (Lavin and Silberstein, 1974) which was, in fact, planned as a part of this study, but released earlier.

Chapter 4 considers compensatory programs and their effects upon academic outcomes. Two major aspects of compensatory programs are considered. First, we assess the effects of experience in formal remedial course work. Second, we have looked at the impact of reduced credit loads upon academic performance.

Chapter 5 deals with a topic not considered at all in the previous report. This involves a comparison of students who entered CUNY under standard admissions procedures with students in the special SEEK (Search for Education, Elevation, and Knowledge) program.

Finally, the highlights of the various analyses are summarized in chapter 6. We note here that readers who are primarily interested in obtaining an overview of the most important findings might wish to go directly to this chapter. Those who wish a more detailed picture should, of course, go through the entire report.

All analyses in the above chapters are conducted within certain high school average categories.3 The following chart indicates the names and definitions of the categories:

High School Average	Senior College Label	Community College Label
Less than 70%	Level B	Level B
70.0 - 74.9%	Level A.1	Level A
75.0 - 79.9%	Level A.2	Regular 1
80.0% or above	Regular	Regular 2

At senior colleges open admissions students are in the Level B, Level A.1, and Level A.2 categories. At community colleges the open admissions students are in the Level B and Level A categories. These definitions allow one to compare senior and community college students at all levels of high school average.

LIMITATIONS OF THE DATA

There was only a short interval between the decision to implement open admissions and the actual beginning in Fall, 1970. As a consequence, lead time for planning was inadequate, both with regard to program formulation and planning for a central research assessment. The capacity of the university to conduct such research was extremely limited at the outset. This was understood initially, and partly as a result of this perception, CUNY contracted with an outside research agency, the American Council on Education, to conduct an assessment covering the first year of the program. However, it was also recognized that there would be a need for continuing research, and the university assumed the responsibility for this effort.

Nevertheless, the initial problems generated by the short lead time had repercussions in all areas of planning, including research. For this reason the research was subject, at the outset, to various limitations. First, the ability of campuses to provide, on request, data to the central office was frequently limited. In particular, some campuses were not able to provide data in the form requested, and with satisfactory levels of reliability. Such problems resulted in serious delays in producing reports, since the initial efforts had to concentrate heavily upon the development of adequate information systems and data processing capabilities. For the time period covered by this report many of the difficulties had not been overcome.

First, there are colleges missing from this report, both for the 1970 and 1971 enrollees. For the 1970 group, John Jay, Bronx, and Hostos are missing (with the exception of estimates made for certain analyses of retention). In 1971 two new colleges began operation, LaGuardia and Medgar Evers. Of those two colleges fragmentary data are reported only for LaGuardia. Although this college has been included in only a few analyses, this is not due to limitations of the data. Rather, it is due to the fact that LaGuardia has an unusual educational model, and that the manner in which we have coded our variables is not meaningful for this school. In order to include LaGuardia fully in this report, it would have been necessary to recode most variables. The decisions involved in such redefinitions and the subsequent computer work would have taken some time. Rather than delay completion of this report, it was decided to postpone the additional work for LaGuardia until the next report is issued by the Office of Program and Policy Research. The reasons for the exclusion of other colleges vary. However, it is important to note that while the data for these colleges were not ready for analysis at the time we were completing our statistical tabulations, in the interim, the work necessary for the inclusion of these colleges in subsequent reports was completed. Therefore, data for all campuses will be presented in subsequent reports.

A second limitation of the data concerns missing students. There have been, from the very beginning of our efforts to develop a CUNY-wide information system, certain difficulties in building a complete student file. In general these difficulties revolve around the fact that certain identifying data for students had been missing, or were unreliable. The consequence was an inability to merge certain data files for all students. As of the time of this study, considerable progress has been made, and the files for both the 1970 and 1971 freshmen classes are now substantially complete. This will be reflected in future reports. However, analyses which we have conducted indicate that the missing students do not introduce any significant bias into the results of this study.

A third limitation of the data concerns the fact that there are students in our files for whom no information on high school average is available. This is a result of the following factors: (1) Some students have high school equivalency diplomas, and therefore, have no high school average; (2) Some CUNY students reside outside New York City, and in many of these cases data on high school average were not submitted to the University Application Processing Center; (3) There are other students for whom the data were missing for miscellaneous reasons. Where possible, updating of high school average information has now been completed.

Therefore, the number of these cases should be smaller in subsequent reports. In this study we have presented the data for students with no high school average. However, the findings for this group are presented without commentary of any kind.

While it is disappointing to note the above limitations, particularly since the university is now completing its fourth year under open admissions, there have been substantial recent improvements both in the university's data collection system and especially in its computer capability. The consequence of these improvements will be a steady reduction in the limitations noted above as well as a significant reduction in the time lag between report generation and time periods covered by the data. The data in this study are two years old. CUNY is rapidly moving to the point where this time lag will be cut in half.

SCOPE OF FUTURE REPORTS

This is the last purely descriptive study to be written by this author. However, the CUNY Office of Program and Policy Research, headed by Dr. Lawrence Podell, will continue to produce reports describing academic outcomes. The next will be an assessment of outcomes covering six semesters for the 1970 cohort, four semesters for the 1971 cohort, and two semesters for the 1972 freshmen.

In addition to this work, the Office of Program and Policy Research will undertake other studies related to open admissions. One of these, which the author will be pursuing, involves the addition to the main data files of information regarding a variety of student socio-economic and demographic background characteristics.

This will allow us to conduct more precise analyses regarding the academic performance of various subgroups of students. It will also allow us to impose more rigorous statistical controls in analyzing academic outcomes. The primary function of such controls is that they provide us with a means of assessing the impact of CUNY programs on student performance, independent of the individual characteristics of students. As a part of the research supported by the Exxon Education Foundation, we have collected a considerable amount of qualitative data from interviews with faculty in departments offering compensatory work, key administrators on every campus, and students on some campuses. This qualitative information will provide us with a basis for interpreting whatever environmental impact CUNY campuses may have upon students. We expect to present a major report on this research effort during the next year.

NOTES TO CHAPTER 1

1. Moreover, this set of goals is not exhaustive. There are others not stated which may be very important to some individuals and constituencies. However, the five stated here appear to be the primary goals which receive attention and concern both within the university and in the larger public arena.

2. The author designed such a research project three years ago, but adequate funding was not forthcoming, either from outside sources or within the university itself. A new attempt to secure support is underway.

3. The high school average is based, not on all courses, but upon grades received in five areas: English, foreign language, mathematics, science, and social studies.

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CHAPTER 2

CRITERIA OF ACADEMIC SUCCESS

Introduction

This chapter focuses primarily upon those students who entered as freshmen in the Fall of 1970 and who were in attendance for all of the first four semesters. It also considers the freshman year performance of the 1970 and 1971 cohorts. It addresses the following general question: How successful have these students been academically? The question is considered in terms of four indices of academic performance: 1) Grade Point Average; 2) Credit Generation; 3) Credit Ratio; 4) Grade Point Average and Credit Generation considered simultaneously.

All analyses of grade point average classify students according to whether they earned less than a 2.00 average, or whether they earned a 2.00 or better. It is strategic to use the 2.00 grade point average, since this level is the minimum required for graduation.

With regard to credit generation, we classify students according to whether they earned 48 or more credits over their first two years, or whether they earned less than 48 credits. Strictly speaking, a student who is to graduate from a senior college in four years (or from a community college after two) should, at the end of two years, have earned slightly more than 60 credits. However, even before open admissions only about half of CUNY senior college students were graduating at the end of 4 years (Max, 1968). Therefore, we have set the criterion for the generation of credits at a more "permissive" level; e.g., 12 credits per semester (or 48 over the two year period).

The credit ratio is an index analogous to the baseball batting average. It is simply the proportion of credits earned to credits attempted. Thus, a student who registered for 12 credits in a given semester and who earned 12 credits would have a credit ratio of 1.00.

A student who attempted 12 credits and who earned 9 would have a credit ratio of .75. For this index, we define a successful student as one who earns 75% of credits attempted.

Our final academic success criterion refers to the grade point average and credit generation considered simultaneously. In using this index we have defined the successful student as one who has, at the end of 4 semesters, earned (at least) both 48 credits and a 2.00 grade point average.

The four criteria of academic success described above are not entirely independent of one another. Nevertheless, they provide a more comprehensive assessment of academic success than any single criterion considered by itself.

In the discussion to follow, the data are presented first for the senior colleges. We begin with a consideration of the performance of level B students, followed by level A.1 and A.2 students, and we conclude with the presentation of findings for the regular students. A similar procedure is followed for the community colleges.

A second analysis in this chapter compares first year performance data for the 1970 and 1971 freshmen. In terms of present time, these comparisons would seem dated. However, academic performance over the course of the freshman year may be an important determinant of a student's subsequent academic career. For this reason, we have included summary analyses of the first year experience of both cohorts.

The data are presented separately for senior and community colleges, and consist of the same four academic performance variables described above. However, for these one year analyses, we classify students on the credit generation variable according to whether they earned less than 24 credits or more than 24. Similarly, when grade point average and credit generation are considered simultaneously, the "success" threshold is set at 24 or more credits.

Before examining the data, some important cautions regarding interpretation should be noted. As we shall see, colleges differ considerably from one another on many academic success criteria. For example, on grade point average level B students at one college may be much more likely to achieve a 2.00 average than their counterparts at another college. Does this mean that the first college is doing a superior job in serving its students? This is not necessarily the case. The problem of comparing grades (or any other academic index) from one college to another is analogous to comparing income levels or costs of living among different nations. For international economic comparisons there are available standardizing procedures (e.g., the international exchange rates) which make comparisons possible. At CUNY such standardizing procedures could be carried out (though they are unquestionably more difficult than trans-national economic standardizations), but this complex task has not been carried out for the purposes of this report. Therefore, what is the point of such comparisons among CUNY colleges? We know that grading policies differ. For example, some campuses have had an explicit policy that during the freshman year students will not have "F's" calculated into their grade point averages. Other things being equal, students who attend such colleges will, by definition, stand a much better chance of attaining a 2.00 average. There are also "composition effects". That is, other things being equal, we would expect that at a college which has 30% of its freshman class composed by level B students, the chances that these students will attain a 2.00 average are greater than at a college where only 4% of the freshman class is composed of level B's. Moreover, there is the much discussed but poorly defined issue of academic standards. Controlling for all other factors, it may well be that the attainment of a 2.00 average is more difficult at some colleges than at others.

The thrust of the above points is that no simple interpretation of results is possible. In particular, if a relatively high propor-tion of students are achieving the minimal academic performance criteria at a given college, this does not by itself imply that the college is doing a "good" job. Nevertheless, there is a point in comparing colleges: regardless of the kinds of qualitative campus differences referred to above, it is a social fact that at some colleges students are moving toward an end point (graduation) more rapidly than at others. Regardless of the explanation of institutional differences, it is this fact of campus differences which we shall consider. What is important is that we are not labelling colleges as "good" or "bad" based on their ranks relative to one another. We simply note different rates of progress without comment.

In our future research reports on open admissions, qualitative differences among campuses will be considered, and we shall then attempt to make some evaluations rather than simply descriptions.

In confronting the data we now present, the reader should keep in mind these limitations.

Comparisons Of Senior Colleges: Level B Students

1. Grade Point Average. Data describing the four semester cumulative grade point average (GPA) are presented in Table 2.0. For the senior colleges as a group, 35% of level B students had achieved a GPA of at least 2.00 after 4 semesters. Students at Brooklyn College were above average in this respect - 46% had at least a 2.00 average. On the other hand, City College students were below average. Only 28% had achieved this level after their first two years. In short, a Brooklyn student was more than 1 1/2 times as likely to have a 2.00 GPA than his counterpart at City College.

TABLE 2.0

Four Semester Cumulative Grade Point Average (Percent With 2.00 or Above): Rank Order of Senior Colleges for Level B Students

College	%	N
Brooklyn	46	26
Lehman	39	41
Hunter	37	27
Baruch	33	46
York	31	52
City College	28	29
Queens	-	2
SENIOR COLLEGE TOTAL	35	223

2. Credit Generation. Among level B students, 25% had earned at least 48 credits after 4 semesters. However, the proportion varies considerably from college to college. About one-third of students at Brooklyn, York, and Lehman earned at least 48 credits. On the other hand, only about 10% of students at Hunter and City College earned this many credits. In short, a Brooklyn level B student was more than 3 times as likely to have earned 48 or more credits than student at Hunter or City.

TABLE 2.1

Four Semester Cumulative Credits Earned (% Earning 48 or More Credits): Rank Order of Senior Colleges for Level B Students

College	%	N
Brooklyn	35	26
York	33	52
Lehman	32	41
Baruch	20	46
Hunter	11	27
City College	10	29
Queens	-	2
SENIOR COLLEGE TOTALS	25	223

3. Credit Ratio. For the senior colleges as a whole, 65% of level B students earned at least three-fourths of the credits they attempted. This is considerably more than the proportion earning 48 credits or earning a 2.00 GPA. This suggests that level B students had attempted relatively few credits, and that they were earning these credits with grades which tend to be less than C. Students at York college were most likely to have a high credit ratio. Almost 80% of them earned at least 3/4 of the credits they attempted. On the other hand, Hunter students were substantially below average: 37% attained a .75 credit ratio. In other words, a York college student was more than twice as likely to have a high credit ratio than a Hunter student.

TABLE 2.2

Four Semester Cumulative Credit Ratio (Percentage with .75 or Above): Rank Order of Senior Colleges for Level B Students

College	%	N
York	79	52
Baruch	70	46
Lehman	68	41
Brooklyn	61	26
City College	55	29
Hunter	37	27
Queens	-	2
SENIOR COLLEGE TOTAL	65	223

4. Grade Point Average & Credit Generation Considered Simultaneously. Data for this variable are presented in Table 2.3. At the end of two years what proportion of level B students were meeting these minimal criteria of success? Our data show that 17% of level B students were equalling or surpassing these dual criteria. Above the senior college average is Brooklyn, where 27% of the students met or exceeded the criteria. On the other hand, this is true for only 3% of City College students and 11% at Hunter.

TABLE 2.3

Percent of Level B Students Earning 48 Credits and a 2.00 G.P.A. After Four Semesters: Rank Order of Senior Colleges

College	%	N
Brooklyn	27	26
Lehman	22	41
Baruch	17	46
York	17	52
Hunter	11	27
City College	3	29
Queens	-	2
SENIOR COLLEGE TOTAL	17	223

5. Summary for Level B Students. Students from Brooklyn, Lehman, York and Baruch made the strongest showings. Students at Hunter and City College were the least likely to meet the performance criteria over their first four semesters. With the exception of the credit ratio variable, level B students as a group were not making a strong showing. Less than half met any of the minimal thresholds defined by the other criteria of academic success. To some extent this is accounted for by the slow start necessitated by their placement in compensatory courses during the freshman year.

Comparisons of Senior Colleges: Level A .1 Students

1. Grade Point Average. For the senior colleges as a whole, 50% of the level A .1 students had attained at least a 2.00 GPA after their first 4 semesters. Students at Hunter were most likely to exceed this average, while students at City College were least likely to meet the criterion. However, the difference between the top and bottom ranked colleges is not very great, since a Hunter student was only 1.3 times as likely as a City College student to achieve a 2.00 GPA.

TABLE 2.4

Four Semester Cumulative Grade Point Average (Percent With 2.00 or Above): Rank Order of Senior Colleges for Level A .1 Students.

College	%	N
Hunter	58	175
Lehman	53	150
York	52	115
Brooklyn	50	139
Queens	50	32
Baruch	47	139
City College	43	168
SENIOR COLLEGE TOTAL	50	918

2. Credit Generation. Data for credit generation are presented in Table 2.5. After 4 semesters 39% of the senior college Level A .1 students had earned at least 48 credits. There is substantial institutional variation. At York 60% of the students had earned this many credits, while at Hunter this was true for only 20%. Thus, a York student was 3 times as likely to earn 48 credits than a Hunter student. Lehman and Brooklyn students were also above average, while City College and Queens students were below average.

TABLE 2.5

Four Semester Cumulative Credits Earned (% Earning 48 or More Credits): Rank Order of Senior colleges for Level A.1 Students

College	%	N
York	60	115
Lehman	55	150
Brooklyn	49	139
Baruch	34	139
City College	30	168
Queens	28	32
Hunter	20	175
SENIOR COLLEGE TOTALS	39	918

3. Credit Ratio. Table 2.6 presents the results for this variable. For the senior colleges as a group, 72% of the students were earning at least 75% of the credits they attempted. There is a rather wide range between the top and bottom ranked colleges. While 91% of York students attained a .75 credit ratio, this was true for only 53% of students at Queens. Lehman and Baruch were also above average, while Hunter, like Queens, was considerably below average.

TABLE 2.6

Four Semester Cumulative Credit Ratio
(Percentage with .75 or Above): Rank Order of Senior
Colleges for Level A.1 Students

College	%	N
York	91	115
Lehman	81	150
Baruch	78	139
City College	70	168
Brooklyn	67	139
Hunter	55	175
Queens	53	32
SENIOR COLLEGE TOTAL	72	918

4. Grade Point Average and Credit Generation Considered Simultaneously. Table 2.7 shows that at the end of 4 semesters 30% of senior college level A .1 students had attained both a C average and had earned 48 or more credits. There is again substantial institutional variation. Students at Lehman, York and Brooklyn were most likely to have met or exceeded this criterion, while students at City College and Hunter were least likely to have done so. A Lehman student was more than twice as likely to have met this criterion than was a student at Hunter.

TABLE 2.7

Percent of Level A.1 Students Earning 48 Credits and a 2.00 G.P.A. After Four Semesters: Rank Order of Senior Colleges

College	%	N
Lehman	41	150
York	39	115
Brooklyn	37	139
Baruch	29	139
Queens	28	32
City College	22	168
Hunter	18	175
SENIOR COLLEGE TOTAL	30	918

5. Summary for Level A.1 Students. Lehman college ranks high on all indices of academic success. Students at York also performed strongly, relative to the other senior colleges. On the other hand, students at City College and Hunter (with the exception of GPA) were most likely to perform below the level of their counterparts at other colleges.

Comparisons of Senior Colleges: Level A.2 Students

1. Grade Point Average. As Table 2.8 shows, 70% of the level A.2 students had attained at least a 2.00 average after four semesters. Students at Queens and Hunter were somewhat above the senior college average, while students at City College ranked lowest on this criterion.

TABLE 2.8

Four Semester Cumulative Grade Point Average (Percent With 2.00 or Above): Rank Order of Senior Colleges for Level A.2 Students

College	%	N
Queens	79	316
Hunter	76	416
Brooklyn	73	449
Lehman	70	445
York	67	254
Baruch	64	314
City College	58	416
SENIOR COLLEGE TOTAL	70	2610

2. Credit Generation. As Table 2.9 indicates, 55% of the senior college level A.2 students earned at least 48 credits over their first 2 years. The amount of institutional variation is considerable. While at Lehman 73% of the students earned at least this many credits, this was true of only 38% at Hunter. In short, a Lehman student was almost twice as likley to earn 48 or more credits than was a Hunter student. We note here that Hunter displays an unusual pattern: it ranks very high in the proportion of students earning a 2.00 GPA, but very low in credit generation.

TABLE 2.9

Four Semester Cumulative Credits Earned (% Earning 48 or More Credits): Rank Order of Senior Colleges for Level A.2 Students

College	%	N
Lehman	73	445
Brooklyn	64	449
York	60	254
Queens	52	316
Baruch	50	314
City College	46	416
Hunter	38	416
SENIOR COLLEGE TOTALS	55	2610

3. Credit Ratio. Table 2.10 presents the data for the 4 semester cumulative credit ratio. Eighty-two percent of the level A.2 students earned at least 75% of the credits which they attempted. Institutional variation is much smaller than was the case for credit generation. While at York college 91% had a credit ratio of at least .75, this was true for 75% of the students at City college. Thus, the difference between the top ranked and bottom ranked colleges is not as great as was the case for credit generation.

TABLE 2.10

Four Semester Cumulative Credit Ratio
(Percentage with .75 or Above): Rank Order of Senior
Colleges for Level A.2 Students

College	%	N
York	91	254
Lehman	88	445
Baruch	84	314
Brooklyn	82	449
Queens	82	316
Hunter	75	416
City College	74	416
SENIOR COLLEGE TOTAL	82	2610

4. Credit Generation and GPA Considered Simultaneously. As Table 2.11 shows, 48% of the level A.2 students had, after 2 years, achieved both a C average and 48 or more credits. The range between the top and bottom ranked colleges is fairly large. At Lehman 60% of the students had attained this standard, compared with 33% of Hunter students. Brooklyn was also well above average.

TABLE 2.11

Percent of Level A.2 Students Earning 48 Credits and a 2.00 G.P.A. After Four Semesters: Rank Order of Senior Colleges

College	%	N
Lehman	60	445
Brooklyn	57	449
Queens	51	316
York	47	254
Baruch	44	314
City College	40	416
Hunter	33	416
SENIOR COLLEGE TOTAL	48	2610

5. Summary for Level A.2 Students. In general, students at Lehman and Brooklyn exhibited the strongest performance on the academic success indices. On the other hand, students at City College are consistantly low on these criteria. Students at Hunter are also low with the exception noted earlier: they are among the top ranking colleges for GPA.

Comparisons of Senior Colleges: Regular Students

1. Grade Point Average. Table 2.12 shows that 90% of senior college regular students maintained at least a 2.00 average over their first two years. For this variable Queens and Lehman were the top rank schools, while Baruch, City College, and York were the low ranking schools. The gap between the top and bottom ranks is relatively small.

TABLE 2.12

Four Semester Cumulative Grade Point Average (Percent With 2.00 or Above): Rank Order of Senior Colleges for Regular Students

College	%	N
Queens	94	2032
Lehman	93	644
Brooklyn	90	2395
Hunter	90	1262
Baruch	85	322
City College	84	1110
York	82	79
SENIOR COLLEGE TOTAL	90	7844

2. Credit Generation. Almost 80% of these students had earned at least 48 credits after 4 semesters (Table 2.13). Students at Lehman and Brooklyn were the leaders in this respect. Students at York, Hunter, and City College produced the fewest credits.

TABLE 2.13

Four Semester Cumulative Credits Earned (% Earning 48 or More Credits): Rank Order of Senior Colleges for Regular Students

College	%	N
Lehman	87	644
Brooklyn	87	2395
Queens	79	2032
Baruch	74	322
York	70	79
Hunter	70	1262
City College	69	1110
SENIOR COLLEGE TOTAL	79	7844

3. Credit Ratio. Table 2.14 shows that 93% of the students earned at least 3/4 of the credits which they attempted. The senior colleges are rather closely bunched around this figure. The difference between the top and bottom rank schools (Lehman and Hunter) is only 6%.

TABLE 2.14

Four Semester Cumulative Credit Ratio
(Percentage with .75 or Above): Rank Order of Senior
Colleges for Regular Students

College	%	N
Lehman	96	644
York	95	79
Brooklyn	94	2395
Baruch	93	322
Queens	93	2032
City College	91	1110
Hunter	90	1262
SENIOR COLLEGE TOTAL	93	7844

4. Credit Generation and GPA Considered Simultaneously. For the senior colleges as a whole, 76% of the regular students earned 48 or more credits, while also maintaining at least a C average. Students at Lehman and Brooklyn were most likely to achieve this criterion, while those at City College, Hunter, and York ranked lowest. The range between the top and bottom rank colleges is the greatest for any of the comparisons of regular students. The chances that a Lehman student would meet this success criterion were better than eight in ten, while for a York student they were about six in ten.

TABLE 2.15

Percent of Regular Students Earning 48 Credits and a 2.00 G.P.A. After Four Semesters: Rank Order of Senior Colleges

College	%	N
Lehman	85	644
Brooklyn	83	2395
Queens	78	2032
Baruch	70	322
City College	67	1110
Hunter	67	1262
York	62	79
SENIOR COLLEGE TOTAL	76	7844

5. Summary for Regular Students. For this group, students at Lehman and Brooklyn were achieving at the highest levels. Students at City College, Hunter, and York showed relatively low performance levels.

Comparisons of Level B, Level A.1, Level A.2, and Regular Students.

We now wish to consider the discrepancy in performance among students of different levels. It will be remembered that regular students are those who would have qualified for entrance to CUNY prior to open admissions. The other students (Levels B, A.1, A.2) are those who would not have qualified for senior college prior to open admissions. Our focus is on the following question: At what colleges is the performance gap between regular and open admissions students greatest, and at what colleges is it the smallest? In short, we compare each level of open admissions students with the regular students.

It should be noted that in some respects this is a very stringent, perhaps even harsh, comparison. One would not expect level B students to approximate the performance of regular students. The fact that the regular students outperform open admissions students should not be construed as a negative outcome of the open admissions policy. However, the possibility that the performance of open admissions students may approximate more closely the performance of regular students at some colleges than at others, is one we now explore. If there are differences in this respect, they provide an important direction for further research. Such research would address itself to the reasons (e.g., different educational policies from campus to campus) for these performance differentials.

The data are presented in Table 2.16. The students are compared on our dual criterion; that is, the percentage of students who had achieved both 48 or more credits and at least a 2.00 average after two years.

We reiterate for the reader that these comparisons should not be considered with the expectation that open admissions students should be achieving at the level of the regular students. Rather, the focus is upon institutional comparisons. At Brooklyn, a regular student is three times more likely than a level B student to have achieved the criterion. At the other extreme, a regular student at City College is more than 20 times as likely than his level B counterpart to have achieved this record.

A level A.1 student at York comes closest to approximating the performance of a regular student. (The latter are 1.6 times as likely to achieve the criterion than the level A.1 students). On the other hand, the discrepancy between regular and Level A.1 students is greatest at Hunter, where the former are 3.7 times more likely to achieve the criterion.

When we compare the level A.2 students with the regulars, the performance discrepancy is again smallest at York and greatest at Hunter.

In summary, the performance of open admissions students most closely approximates that of regular students at York, Lehman, and Brooklyn. In contrast, open admissions students at Hunter and at City College are least likely to approximate the performance of the regular students. The reasons for this institutional variation are, as yet, unclear, and interpretation at this time would be merely speculative. However, we suggest that explanations may derive from forthcoming analyses of differences in the style of open admissions implementation among the various colleges.

TABLE 2.16

Comparison of Level B, A.1, A.2 with Regular Students; Performance Ratios for the Criterion: Earning 48 Credits and a 2.00 GPA (Senior Colleges)

College	B	A.1	A.2
Brooklyn	3.1	2.2	1.5
York	3.6	1.6	1.3
Lehman	3.8	2.1	1.4
Baruch	4.1	2.4	1.6
Hunter	6.1	3.7	2.0
City College	22.3	3.0	1.7
Queens	-	2.8	1.5
SENIOR COLLEGE AVERAGE	4.5	2.5	1.6

Comparisons of Community Colleges: Level B Students

1. Grade Point Average. The data for grade point average are presented in Table 2.17. Forty-eight percent of the level B students were able to attain at least a C average over four semesters. There is rather wide institutional variation. At Borough of Manhattan 70% of the students performed at this level. Students at Queensborough were considerably below the community college average; only 32% achieved a cumulative grade point average of C or better.

TABLE 2.17

Four Semester Cumulative Grade Point Average (Percent With 2.00 or Above): Rank Order of Community Colleges for Level B Students

College	%	N
Manhattan	70	146
NYCCC	51	294
Staten Island	50	155
Kingsborough	49	385
Queensborough	32	310
COMMUNITY COLLEGE TOTAL	48	1290

2. Credit Generation. Table 2.18 shows that 36% of community college level B students earned at least 48 credits. Manhattan, which was the top ranked institution for grade point average, is also the leader for credit generation (50% of its students earned at least 48 credits). Queensborough and Staten Island are the colleges where students were least likely to earn this many credits.

TABLE 2.18

Four Semester Cumulative Credits Earned (% Earning 48 or More Credits): Rank Order of Community Colleges for Level B Students

College	%	N
Manhattan	50	146
Kingsborough	45	385
NYCCC	43	294
Staten Island	29	155
Queensborough	15	310
COMMUNITY COLLEGE TOTALS	36	1290

3. Credit Ratio. Table 2.19 indicates that three-fourths of the level B students attained a credit ratio of .75 or better. The individual colleges are rather closely bunched around this community college average. Kingsborough and Manhattan rank at the top of the list, while Queensborough is the lowest ranking school.

TABLE 2.19

Four Semester Cumulative Credit Ratio
(Percent with .75 or Above): Rank Order
Of Community Colleges for Level B Students

College	%	N
Kingsborough	83	385
Manhattan	81	146
NYCCC	76	294
Staten Island	73	155
Queensborough	63	310
COMMUNITY COLLEGE TOTAL	75	1290

4. Credit Generation and GPA Considered Simultaneously. For the community colleges as a whole, 29% of the level B students earned at least 48 credits and a C average. The range from the top to the bottom ranked colleges is considerable. At Manhattan 47% of the students were achieving at this level. On the other hand, this was true for only 13% of Queensborough students.

TABLE 2.20

Percent of Level B Students Earning 48 Credits and a 2.00 G.P.A. After Four Semesters: Rank Order of Community Colleges

College	%	N
Manhattan	47	146
NYCCC	34	294
Kingsborough	33	385
Staten Island	25	155
Queensborough	13	310
COMMUNITY COLLEGE TOTAL	29	1290

5. Summary for Level B Students. A certain consistency emerges from our four indices of academic success. On all measures Queensborough is the college ranking lowest. Manhattan emerges as the top ranking college, while Kingsborough and NYCCC students are also somewhat above average.

Comparisons of Community Colleges: Level A Students

1. Grade Point Average. The findings are presented in Table 2.21. For the community colleges as a group 66% of the level A students maintained at least a 2.00 average. Manhattan (81%) and Kingsborough (70%) were above average. Queensborough (58%) was below average.

TABLE 2.21

Four Semester Cumulative Grade Point Average (Percent With 2.00 or Above): Rank Order of Community Colleges for Level A Students

College	%	N
Manhattan	81	162
Kingsborough	70	426
NYCCC	66	314
Staten Island	66	272
Queensborough	58	497
COMMUNITY COLLEGE TOTAL	66	1671

2. Credit Generation. Table 2.22 shows that 50% of the community college level A students earned at least 48 credits. Kingsborough students were the most productive, 64% earning at least this many credits. Students at Queensborough were the least likely to earn 48 credits.

TABLE 2.22

Four Semester Cumulative Credits Earned (% Earning 48 or More Credits): Rank Order of Community Colleges for Level A Students

College	%	N
Kingsborough	64	426
NYCCC	57	314
Manhattan	52	162
Staten Island	50	272
Queensborough	34	497
COMMUNITY COLLEGE TOTAL	50	1671

3. Credit Ratio. Almost 90% of the level A students earned at least 3/4 of the credits which they attempted (Table 2.23). Kingsborough was the top ranked college, while Staten Island ranked lowest. However, the range from top to bottom is quite narrow.

TABLE 2.23

Four Semester Cumulative Credit Ratio (Percent with .75 or Above): Rank Order Of Community Colleges for Level A Students

College	%	N
Kingsborough	94	426
Manhattan	90	162
NYCCC	86	314
Queensborough	85	497
Staten Island	85	272
COMMUNITY COLLEGE TOTAL	88	1671

4. Credit Generation and GPA Considered Simultaneously. Table 2.24 shows that 44% of these students were achieving the minimal criteria for academic success. Kingsborough students ranked at the top in this regard, while those at Queensborough were least likely to earn 48 credits and achieve a C average.

TABLE 2.24

Percent of Level A Students Earning 48 Credits and a 2.00 G.P.A. After Four Semesters: Rank Order of Community Colleges

College	%	N
Kingsborough	55	426
Manhattan	50	162
NYCCC	48	314
Staten Island	47	272
Queensborough	29	497
COMMUNITY COLLEGE TOTAL	44	1671

5. Summary for Level A Students. Overall, level A students at Kingsborough exhibited the highest level of academic achievement. Manhattan students also performed strongly. Queensborough ranked lowest on three of our four measures of academic success.

Comparisons Of Community Colleges Regular 1 Students

1. Grade Point Average. Eighty-two percent of regular 1 students maintained at least a C average (Table 2.25). The colleges cluster rather closely around this average. At the top ranked institution, Manhattan, 93% of the students equaled or exceeded a C average. At the lowest ranked institution, Queensborough, this was true for 77% of the students.

TABLE 2.25

Four Semester Cumulative Grade Point Average (Percent With 2.00 or Above): Rank Order of Community Colleges for Regular 1 Students

College	%	N
Manhattan	93	140
Kingsborough	85	255
Staten Island	82	262
NYCC	80	267
Queensborough	77	417
COMMUNITY COLLEGE TOTAL	82	1341

2. Credit Generation. Table 2.26 presents the data for this criterion. For the community colleges as a group, 65% of the students earned at least 48 credits. Kingsborough students were most productive (76%), while Queensborough was lowest in credit generation (52%).

TABLE 2.26

Four Semester Cumulative Credits Earned (% Earning 48 or More Credits): Rank Order of Community Colleges for Regular 1 Students

College	%	N
Kingsborough	76	255
NYCCC	72	267
Manhattan	72	140
Staten Island	61	262
Queensborough	52	417
COMMUNITY COLLEGE TOTAL	65	1341

3. Credit Ratio. Table 2.27 shows that over 90% of the regular 1 students earned at least 3/4 of the credit they attempted. There is very little institutional variability. At the top ranking college, Kingsborough, 94% of the students had a credit ratio of at least .75, while this was true for 90% of the students at Staten Island.

TABLE 2.27

Four Semester Cumulative Credit Ratio
(Percent with .75 or Above): Rank Order
Of Community Colleges for Regular 1 Students

Colleges	%	N
Kingsborough	94	255
Manhattan	93	140
NYCCC	92	267
Queensborough	91	417
Staten Island	90	262
COMMUNITY COLLEGE TOTAL	92	1341

4. Credit Generation and GPA Considered Simultaneously. On our dual criterion of academic success (Table 2.28), 62% of the community college students succeeded in earning at least 48 credits and maintaining a 2.00 average. The range from top to bottom is fairly great. Kingsborough (72%) and Manhattan (71%) were the colleges where students exhibited the strongest performance. Queensborough was again the campus where students were least likely to meet the criterion.

TABLE 2.28

Percent of Regular 1 Students Earning 48 Credits and a 2.00 G.P.A. After Four Semesters: Rank Order of Community Colleges

College	%	N
Kingsborough	72	255
Manhattan	71	140
NYCCC	68	267
Staten Island	59	262
Queensborough	49	417
COMMUNITY COLLEGE TOTAL	62	1341

5. Summary for Regular 1 Students. Manhattan and Kingsborough emerge as the schools where students exhibit the highest levels of achievement. As has been the case with all of the analyses thus far, Queensborough is the lowest ranking institution.

Comparisons of Community Colleges: Regular 2 Students .

1. Grade Point Average. Table 2.29 shows that over 90% of regular 2 students attained at least a 2.00 grade point average. Among the individual colleges this was true for 99% of students at Manhattan. At NYCCC this was true for 89% of the students. In short, there is a relatively small range from top to bottom on this academic success criterion.

TABLE 2.29

Four Semester Cumulative Grade Point Average (Percent With 2.00 or Above): Rank Order of Community Colleges for Regular 2 Students

College	%	N
Manhattan	99	85
Queensborough	94	164
Kingsborough	94	71
Staten Island	91	177
NYCCC	89	150
COMMUNITY COLLEGE TOTAL	93	647

2. Credit Generation. The data are presented in Table 2.30. For the community colleges as a group, 79% of these students earned at least 48 credits. For this criterion there is somewhat more institutional variation than we found in the case of GPA. Kingsborough students were the most productive (90% earned at least 48 credits), while Queensborough was again the least productive institution.

TABLE 2.30

Four Semester Cumulative Credits Earned (% Earning 48 or More Credits): Rank Order of Community Colleges for Regular 2 Students

College	%	N
Kingsborough	90	71
NYCCC	83	150
Manhattan	78	85
Staten Island	77	177
Queensborough	74	164
COMMUNITY COLLEGE TOTALS	79	647

3. Credit Ratio. Table 2.31 shows that almost all regular 2 students had credit ratios of .75 or better. There is almost no institutional variation on this criterion.

TABLE 2.31

Four Semester Cumulative Credit Ratio
(Percent with .75 or Above): Rank Order
Of Community Colleges for Regular 2 Students

College	%	N
Queensborough	99	164
Manhattan	99	85
Kingsborough	97	71
NYCCC	97	150
Staten Island	97	177
COMMUNITY COLLEGE TOTAL	98	647

4. Credit Generation and GPA Considered Simultaneously. Table 2.32 shows that 78% of these students earned at least 48 credits and at the same time maintained at least a 2.00 GPA. Kingsborough was the leader in this respect (89%) while Queensborough was again the low ranking college. The other campuses are bunched very closely around the community college average.

TABLE 2.32

Percent of Regular 2 Students Earning 48 Credits
and a 2.00 G.P.A. After Four Semesters: Rank Order
Of Community Colleges

College	%	N
Kingsborough	89	71
NYCCC	79	150
Manhattan	78	85
Staten Island	76	177
Queensborough	74	164
COMMUNITY COLLEGE TOTAL	78	647

5. Summary for Regular 2 Students. Inter-college variability is smaller for regular 2 students than for community college students at any other level. Nevertheless, it appears that students at Kingsborough are performing most strongly, while Queensborough continues to rank low.

Comparisons of Level B, Level A, and Regular 1 Students

As we did with the senior colleges, we now wish to consider how closely the performance of open admissions students approximates the performance of regular students. Table 2.33 presents the findings. We have compared level B students with regular 1 students, and level A's with regular 1 students. Regular 2 students have been omitted from the analyses. We have omitted this group for the following reason: They are the group with high school averages of 80 or better. The regular 1 students are those with high school averages between 75 - 79.9. The latter constitute the bulk of regular students at community colleges. Indeed, of the total group of regular students more than 2/3 are in the regular 1 category. These are most typical of the regular students at community colleges, and therefore, we have used them as the base line group against which to compare the performance of open admissions students.

As Table 2.33 shows, regular 1 students are more than twice as likely as level B students to earn 48 credits and achieve a 2.00 GPA. Among individual colleges, level B students at Manhattan most closely approximate the performance of regular

1 students. The performance discrepancy between these groups is greatest at Queensborough, where regular 1 students are 3.8 times more likely than the level B's to achieve the credit and GPA criteria.

We now compare the performance of level A and regular 1 students. For the community colleges as a group, the regular 1 students are 1.4 times as likely than the level A's to achieve the credit and GPA standard. There is relatively little institutional variation around this communtiy college average.

TABLE 2.33

Comparison of Level B and A with Regular 1 Students: Performance Ratios for the Criterion: Earning 48 credits and a 2.00 G.P.A. (Community Colleges)

College	B	A
Manhattan	1.5	1.4
NYCCC	2.0	1.4
Kingsborough	2.2	1.3
Staten Island	2.4	1.3
Queensborough	3.8	1.7
COMMUNITY COLLEGE AVERAGE	2.1	1.4

Performance of Community College Students: Criteria for Graduation

In all of the previous discussions, both for senior and community colleges, we have presented data for credit generation , using 48 credits earned as the threshold defining successful performance on this criterion. Based on the findings of the Max study (1968) which indicated that substantial numbers of senior college students take more than four years to earn a degree, it seemed reasonable to use this level. However, community college students can graduate in two years, if they earn slightly more than 60 credits (the exact number of credits varies slightly from one college to another, depending on such things as the specific curriculum being considered), and if they have a minimum cumulative GPA of 2.00. Meeting these criteria does not, in itself, guarantee that a student will graduate. The student might still be lacking certain distribution requirements. Nevertheless, if we consider the proportions of students who, after two years, had earned at least 60 credits with a 2.00 GPA, this furnishes a good approximation of those who were at least very close to degree attainment.

What proportion of community college students in the first entering class (who were present for all four semesters) met these criteria? We have assessed this question. The data are presented in Tables 2.34-2.37.

1. Level B Students. Table 2.34 shows the proportion of level B students who met or came very close to meeting the minimum graduation requirements. For the community colleges as a group, 11% were at least very close. There is considerable institutional variation. At NYCCC 18% met the requirements, while at Queensborough only 3% did so.

TABLE 2.34

Percent of Level B Students Earning 60 Credits and a 2.00 G.P.A. After Four Semesters: Rank Order of Community Colleges

College	%	N
NYCCC	18	294
Kingsborough	15	385
Manhattan	12	146
Staten Island	7	155
Queensborough	3	310
COMMUNITY COLLEGE TOTAL	11	1290

2. Level A Students. For this group, 17% approximated graduation requirements. Students at Kingsborough and NYCCC were above the community college average. Students at Queensborough were again considerably below this average.

TABLE 2.35

Percent of Level A Students Earning 60 Credits and a 2.00 G.P.A. After Four Semesters: Rank Order of Community Colleges

College	%	N
Kingsborough	26	426
NYCCC	25	314
Manhattan	16	162
Staten Island	13	272
Queensborough	7	497
COMMUNITY COLLEGE TOTAL	17	1671

3. Regular 1 Students. Table 2.36 shows that 31% of these students approximated the graduation requirements. NYCCC and Kingsborough students were again the most likely to have qualified for graduation. Staten Island and Queensborough students were least likely to have met the requirements.

TABLE 2.36

Percent of Regular 1 Students Earning 60 Credits and a 2.00 G.P.A. After Four Semesters: Rank Order of Community Colleges

College	%	N
NYCCC	47	267
Kingsborough	45	255
Manhattan	29	140
Staten Island	24	262
Queensborough	16	417
COMMUNITY COLLEGE TOTAL	31	1341

4. Regular 2 Students. Forty-six percent of this group could have graduated after 4 semesters (table 2.37). Kingsborough (61%) and NYCCC (58%) are again considerably above average. Manhattan (40%) and Staten Island (38%) are somewhat below average. We note that for this group the performance of Queensborough students is stronger than for the other student categories discussed above.

TABLE 2.37

Percent of Regular 2 Students Earning 60 Credits and a 2.00 G.P.A. AFter Four Semesters: Rank Order of Community Colleges

College	%	N
Kingsborough	61	71
NYCCC	58	150
Queensborough	41	164
Manhattan	40	85
Staten Island	38	177
COMMUNITY COLLEGE TOTAL	46	647

5. Comparison With National Data. The data presented in Tables 2.34-2.37 showed that for the community colleges as a group, the following proportions of students (present for all four semesters) met or approximated graduation criteria: 11% of level B students, 17% of level A's, 31% of regular 1's, and 46% of regular 2's. Is it possible to characterize these figures in anything more than descriptive terms? We believe this can be done by placing the data in the comparative context provided by national data. The most recent and most comprehensive study has been carried out by Astin (1972). He followed a national cohort of students who entered college in 1966. Four years or eight semesters later, he gathered data on the proportions of students attending two-year colleges who had attained Associate degrees.

We compare the Astin data on community college students after _four_ years with CUNY data after two years. Before doing this the reader should note that the data just presented on proportions of students who met or approximated graduation requirements refer to those students who were in attendance for all four semesters. This, of course, is a subset of the population which originally enrolled. In order to attain comparability with the Astin data, we have recomputed the CUNY data using the entire initial cohort as the base. The findings are presented in Table 2.38.

TABLE 2.38

Percent of CUNY Community College Students Approximating Degree Requirements After Two Years Compared with National Graduation Rates for Community College Students After Four Years

High School Average	CUNY*	National**
80 or Above	28	45%
75-79.9	18	39
70-74.9	9	29
Below 70	5	25

* Figures are for four semesters

** Figures are for eight semesters (Source: Astin, 1972)

As one might expect, the national graduation rates are higher, since Astin's assessment was made four years after college entry. The question raised by table 2.38 is whether after four years, the CUNY community college students will approximate the national graduation rates. The initial criterion used earlier in the chapter to describe the progress of CUNY students was 48 credits and a 2.00 GPA after two years. Students who met this criterion would, in fact, be excellent candidates for graduation in the following year since they would only need an additional 15-20 credits. Therefore, we believe that the most strategic analysis is to compare two sets of CUNY data with the national data. First, what are the proportions of CUNY students who are close to degree requirements (48 credits and a 2.00 GPA after two years)? Second, what are the proportions of CUNY students who have equaled or approximated degree requirements after two years (60 credits and a 2.00 GPA)? Third, how do these figures compare with the national data presented by Astin? Table 2.39 presents all of these data.

TABLE 2.39

Progress Toward Graduation of CUNY Community College Students Compared With National Graduation Rates for Community College Students After Four Years

High School Average	CUNY* 48 Credits & 2.00 GPA	CUNY* 60 Credits & 2.00 GPA	National**
80 or Above	47%	28%	45%
75-79.9	37	18	39
70-74.9	23	9	29
Below 70	13	5	25

* Figures are for four semesters

** Figures are for eight semesters (Source: Astin, 1972)

Given the fact that the national figures reflect graduation from two year colleges four years after entry, we conclude that the CUNY two year data compare very favorably. For the students with high school averages of 75-79 and 80 or above, the data indicate that there are enough students earning 48 credits with a 2.00 GPA to suggest that after three years,the CUNY graduation rate would approximate the national rate after four years. For the students with high school averages of 70-74 and 70 or less, it appears that after their third year they will not meet the national rate. However, the chances are reasonable that over the four year period the CUNY graduation rate for these students will equal or exceed the national rate.

While some may be disappointed at the apparently slow rate of progress of CUNY community college students, we can only assert that the CUNY record seems at this point to differ little from what is the case nationally. Indeed, it can be pointed out that since the CUNY community college population is even less selected than is the case nationally, the comparisons reflect even more favorably on the CUNY students.

Freshman Year Performance Comparisons

We believe that there may be some interest in comparing the two-semester performance of the 1970 and 1971 cohorts. Since 1970 represents the first year of open admissions, it is useful to assess whether there are any significant changes in academic performance for the first two entering classes. The data are presented in tables 2.40 and 2.41.

For the senior colleges, the data for grade point average show no significant differences between the two cohorts. Similarly, there are no substantial differences for credit ratio. With regard to credit generation, there are substantial decreases at all levels except regular students. In short, the 1971 freshmen earned fewer credits than the 1970 group. Since there were no decreases for grade point average or credit ratio, this decrease in the production of credits does not indicate a decline in the quality of student performance. Rather, it indicates that the 1971 students earned less credits because they attempted fewer. Similarly, the combined criterion of GPA and credits earned reflects the decrease observed for credit generation.

TABLE 2.40

Summary of One Year Academic Performance Analyses:
Comparison of 1970 and 1971 Enrollees (Senior Colleges - Percent
Meeting or Exceeding "Success" Criteria)

LEVEL

Performance Measure	B		A.1		A.2		Regular	
	70	71	70	71	70	71	70	71
Grade Pt. Average	33% (349)	32% (390)	43% (1282)	44% (1444)	65% (3360)	63% (3090)	87% (9196)	87% (8557)
Credits Earned	20% (352)	7% (293)	34% (1291)	21% (1460)	51% (3371)	41% (3095)	76% (9203)	74% (8567)
Credit Ratio	53% (336)	56% (283)	65% (1266)	67% (1418)	79% (3327)	78% (3035)	92% (9162)	92% (8506)
Credits Earned & Grade Pt. Average	13% (349)	5% (290)	23% (1282)	16% (1444)	43% (3360)	36% (3090)	71% (9196)	71% (8557)

The data for community colleges (table 2.41) are rather consistent. We do note a slight increase in performance for grade point average. However, with the exception of level B students, where there is a slight decrease, there is no change for credit ratio. For credits earned, there are slight decreases for regular 1 and regular 2 students in the proportions earning 24 or more credits in the freshman year. We conclude that there were no basic changes in freshman year academic performance between the two cohorts. Whether such changes will occur for future cohorts will be assessed as the data become available.

TABLE 2.41

Summary of One Year Academic Performance Analyses: Comparison of 1970 and 1971 Enrollees (Community Colleges - Percent Meeting or Exceeding "Success" Criteria)

LEVEL

Performance Measure	B		A.1		Regular 1		Regular 2	
	70	71	70	71	70	71	70	71
Grade Pt. Average	44% (2054)	44% (1553)	57% (2471)	60% (2081)	72% (1818)	75% (1700)	86% (852)	89% (831)
Credits Earned	27% (2058)	25% (1560)	39% (2472)	39% (2087)	54% (1820)	48% (1701)	68% (852)	64% (832)
Credit Ratio	75% (1993)	70% (1486)	83% (2417)	80% (2033)	87% (1792)	88% (1676)	94% (844)	94% (828)
Credits Earned & Grade Pt. Average	20% (2054)	20% (1553)	32% (2471)	34% (2081)	49% (1818)	45% (1700)	66% (852)	62% (831)

Summary and Discussion of Academic Success Analyses

Analyses of academic performance were conducted for senior and community college students who enrolled in the fall of 1970 and were present for all of their first four semesters. All analyses were carried out within high school average categories. Four measures of academic performance were used: 1) Grade Point Average; 2) Credit Generation; 3) Credit Ratio; 4) Grade Point Average and Credit Ratio considered simultaneously. The "success" criteria were set as follows for each variable: grade point average (% over 2.00); credit generation (% earning 48 or more credits); credit ratio (% earning .75 or more credit ratio); credits and grade point average considered simultaneously (2.00 or more GPA and 48 or more credits). The aggregate findings are summarized in Table 2.42.

TABLE 2.42

Summary of Academic Performance Analyses Over Two Years
for Senior and Community College Students Who
Enrolled in Fall, 1970. (Percent Achieving criteria for "success")

Type of College

	Sen.	Comm.	Sr.	Comm.	Sr.	Comm.	Sr.	Comm.
	Level		Level		Level		Level	
Performance Measure	B	B	A.1	A	A.2	Reg.1	Reg.	Reg.2
Grade Point Average	35%	48%	50%	66%	70%	82%	90%	93%
Credit Generation	25	36	39	50	55	65	79	79
Credit Ratio	65	75	72	88	82	92	93	98
Credit & GPA	17	29	30	44	48	62	76	78

The summary findings show that for any variable, high school average is positively associated with performance. That is, the stronger the high school average, the stronger the performance record in college. Moreover, for every level of high school average, community college students were more likely to achieve the success criteria than their senior college counterparts. The only exception to this occurred for the Regular (senior) and Regular 2 (community) students, where the performance levels were essentially the same.

One year performance comparisons for the 1970 and 1971 freshmen indicated that, with the exception of a decrease in credit generation for the 1971 cohort, there were no substantial performance changes.

The aggregate data tend to mask the fact that there is considerable institutional variation. That is, at some colleges students are much more likely to achieve various success criteria than at other campuses. While there are variations depending on the particular high school average category being considered, in general senior college students at Lehman, Brooklyn, and York were the most likely to attain the thresholds defined by our success criteria. Among the community colleges, students at Kingsborough and Borough of Manhattan Community College made the strongest showing.

The individual college data do not lend themselves to easy interpretation. At colleges where students are doing relatively well, one cannot assume that such campuses are necessarily doing a better job. Differences in the composition of the student body, possible differences in academic standards, effects of differential retention rates, and differences in grading policies may, alone or in combination, explain differences in student academic performance. Nevertheless, the data clearly indicate that student progress towards a degree varies considerably from one college to another.

REFERENCES

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CHAPTER 3

ANALYSES OF RETENTION

INTRODUCTION

Since the inception of open admissions a major aim of the university has been to avoid the low retention rates which have characterized open admissions models in other places. For this reason retention data are of interest and significance, both within the university and for the public.[1] Indeed, the question of retention has generated considerable controversy. Some of the issues may be clarified by data we shall present.

This chapter has three aims. First, it presents retention data for the 1970 and 1971 freshmen. It compares these groups with regard to retention after one semester. The focus here is not primarily descriptive. Rather, we shall look at the academic performance characteristics which are related to retention rates, and we shall consider whether any changes have occurred from one year to the next in the relation of performance data and retention rates. A second aim of the chapter is to assess in some detail retention phenomena for the 1970 freshmen over the course of their first four semesters. The third aim of the chapter is to consider the data for the 1970 cohort in a national context, thus adding perspective for the local setting.

Discussions of student attrition use the concept in different ways. A frequently used definition considers as dropouts those who are no longer matriculated in the college at which they initially registered. Such a definition is simplistic, since it overlooks a number of phenomena: the students may have transferred to another college or are attending on another basis and are, therefore, still retained by the higher education systems; students may have dropped out at one time and may re-enter later. Thus, a retention rate is, to some extent, a function of the definition.

Official CUNY retention data provided periodically by registrars on each campus are subject to certain limitations. First, students who transfer from their original college to another CUNY unit or to a college out of the CUNY system are not counted as retained. Second, students who leave and then return to another college (both inside and outside of CUNY) are not counted as retained. Third, students who transfer from the day session to the evening session at a given college are also not counted as retained. Fourth, students who leave and then return to their initial college should be included among the retained, but this may not have occurred for all cases and on all campuses. A consequence of these limitations is that the registrars' data underestimate the retention rates.

The data presented in this chapter are not subject to all of the above limitations, and thus, may provide a more refined assessment of the phenomena of retention. Students who transfer from their original college to another CUNY college are listed as retained. Moreover, students who leave and return to their original college or to another college within the CUNY system are also included among the retained (for purposes of this chapter, they have been counted as retained at the college of original enrollment).

However, the data do have certain limitations which should be noted. First, although we are able to track students who migrate from one college to another within CUNY, we cannot do this for students who transfer to colleges outside the university. Second, students who transfer from the day session to the evening session at a college are not counted as retained (though in future reports we expect to have this capability). Third, there are three colleges for which the data are not yet complete enough to permit application of our computerized tracking system for the 1970 freshmen. However, for these campuses we do have the unrefined registrar data. In response to requests we have made "refined estimates" in these three cases for the retention analyses over four semesters.[2]

In short, though CUNY has made improvements in its data collection system - and will continue to do so - our data still tend to underestimate retention rates. Nevertheless, the under-estimates are not as great as those contained in the registrars' data.

ACADEMIC PERFORMANCE AND ONE SEMESTER RETENTION: COMPARISONS OF 1970 AND 1971 FRESHMEN

This section considers retention after one semester. The primary focus is on the relation of retention rates and characteristics of student academic performance. We can also assess any changes which may have occurred between 1970 and 1971 in the relation of performance and retention.

Results For Senior Colleges

Table 3.0 presents the one semester retention rates for the 1970 and 1971 freshmen. For both classes one can see that high school average is positively associated with retention. Thus, 81% and 83% of level B students continued for the second semester of their freshmen year, while this was true for over 90% of regular students. Although there are no significant changes in retention rates from 1970 to 1971 for the senior colleges as a whole, there are certain individual colleges which do exhibit such changes. For level B students at City College the retention rate increased from 76% for the 1970 freshmen to 86% for the 1971 group. There was also an increase for Lehman college level B students. The apparently large increase for this category of students at Hunter college should be discounted since only 11 students were involved for the 1971 freshmen.

TABLE 3.0

Comparison of 1970 and 1971 Cohorts: Retention Rates After One Semester By High School Average (Senior Colleges)

	Level																			
	No H.S. Average				B				A.1				A.2				Regular			
College	70	N	71	N	70	N	71	N	70	N	71	N	70	N	71	N	70	N	71	N
Baruch	-	1	-	1	81%	89	85%	48	92%	216	87%	260	89%	466	88%	516	93	408	90%	535
Brooklyn	84	171	-	1	86	43	80	15	92	204	90	30	93	573	88	298	96	280	95	2402
City	-	4	-	-	76	68	86	101	85	271	83	596	88	621	86	840	93	1445	91	1213
Hunter	76	91	-	-	70	53	100	11	78	289	88	238	83	618	88	681	86	1740	88	1701
Lehman	85	88	-	-	83	104	90	72	85	295	87	368	84	747	85	707	90	873	92	950
Queens	87	40	80	40	67	6	71	91	85	55	76	33	91	458	85	218	93	2562	93	2251
York	93	28	-	-	90	71	93	14	87	178	90	178	88	362	89	322	87	116	92	242
TOTAL	83	423	79	42	81	434	83	352	86	1508	86	1703	88	3845	87	3582	93	9952	92	9294

For level A.1 students, Hunter shows an increase in retention from 78% to 88%. Queens shows the largest decrease: 85% of the 1970 freshmen and 76% of the 1971 group continued for their second semester.

For level A.2 students, there was again a small increase in retention at Hunter, while decreases were in evidence at Brooklyn and Queens.

For regular students the individual colleges show very little change over the first two years. The one exception to this is York where there was a small increase in the retention rate.

1. Retention and Academic Performance: GPA. What is the relationship between a student's grades in his first term and the probability that he will continue at CUNY in the second term? The data are presented in table 3.1. For the senior colleges as a whole one can see that for every level of high school average, students who earned less than a C average in their first term were less likely to return for the second semester. For the 1970 freshmen the retention rate among those earning less than a C average was about the same for all levels of high school average. That is, the rate was 82% for level B students, 85% for level A.1 students, 81% for level A.2 students and 82% for regular students. In short, students below a C average were equally likely to leave after one term, regardless of high school average. For the 1971 freshmen there is a suggestion of a slightly different pattern: level B students who fell below a C average were somewhat *more* likely to continue for the second semester than were students at levels above them.

Among individual colleges there are changes from 1970 to 1971. Among level B students earning less than a 2.00 GPA, the retention rate for the 1971 freshmen was higher than the rate for the 1970 freshmen at Baruch, City College and Lehman. For this group the retention rate was lower at Brooklyn.

For level A.1 students earning less than a C average, there was a substantial increase in the retention rate for 1971 Hunter freshmen (an increase from 73% to 90%). There were decreases at Baruch (91% to 84%) and City college (85% to 72%).

For level A.2 students below a C average the retention rate at City College for the 1971 students was lower than the rate for the 1970 freshmen. The same was true for students at Brooklyn and Queens. Hunter again shows the opposite trend; namely, a substantial increase in the retention rate among the students who began with low GPA.

In summary, Hunter College exhibits considerable change in the relation of retention and GPA. Those below a C average were less likely to leave in 1971 than was the case in 1970. For City College this was true only for level B students. Students at other levels were more likely to leave if they earned less than a 2.00 average in their first semester. Students at Brooklyn College were also more likely to leave in 1971 than in 1970, if they fell below a C average. In general, retention of poorly performing level B students was slightly better in 1971 than in 1970.

TABLE 3.1

Comparison of 1970 and 1971 Freshmen: One Semester Retention Rates in Relation to Grade Point Average (Senior Colleges)

Level B

	2.00 or better				Less than 2.00			
COLLEGE	70	N	71	N	70	N	71	N
Baruch	95%	21	100%	16	79%	61	85%	29
Brooklyn	87	16	-	5	85	27	78	9
City College	95	19	98	48	77	30	87	30
Hunter	100	19	-	4	73	22	-	5
Lehman	94	16	93	15	82	83	93	54
Queens	-	4	92	62	-	-	-	3
York	89	28	100	9	91	43	80	5
TOTAL	93	123	96	159	82	266	87	135

TABLE 3.1

Comparison of 1970 and 1971 Freshman: One Semester Retention Rates in Relation to Grade Point Average (Senior Colleges)

Level A.1

	2.00 or better				Less than 2.00			
COLLEGE	70	N	71	N	70	N	71	N
Baruch	97%	91	97%	98	91%	120	84%	147
Brooklyn	97	96	100	13	90	104	87	16
City College	98	83	98	281	85	151	72	245
Hunter	91	156	99	133	73	106	90	77
Lehman	96	74	98	147	85	206	86	197
Queens	89	44	96	24	-	4	-	-
York	93	95	98	90	82	79	86	81
TOTAL	94	639	98	786	85	770	82	763

Level A.2

	2.00 or better				Less than 2.00			
COLLEGE	70	N	71	N	70	N	71	N
Baruch	98%	252	98%	306	81%	207	79%	186
Brooklyn	97	360	97	158	89	203	80	133
City College	97	281	95	463	86	298	76	322
Hunter	93	430	98	439	69	153	85	175
Lehman	94	339	99	370	80	378	76	300
Queens	96	404	92	195	35	17	15	13
York	92	228	94	231	84	129	82	79
TOTAL	96	2294	96	2162	81	1385	78	1208

Regular

	2.00 or better				Less than 2.00			
COLLEGE	70	N	71	N	70	N	71	N
Baruch	97%	318	98%	396	82%	84	77%	108
Brooklyn	98	2211	98	1985	91	567	89	381
City College	97	1095	97	898	84	307	75	264
Hunter	94	1411	97	1359	67	244	71	216
Lehman	95	637	98	727	81	214	81	199
Queens	96	2462	96	2161	31	35	29	35
York	91	85	98	196	77	31	73	37
TOTAL	96	8219	97	7722	82	1482	78	1240

No High School Average

	2.00 or better				Less than 2.00			
COLLEGE	70	N	71	N	70	N	71	N
Baruch	-	-	-	-	-	1	-	1
Brooklyn	98	103	-	-	67	64	-	1
City College	-	1	-	-	-	3	-	-
Hunter	83	70	-	-	60	15	-	-
Lehman	85	40	-	-	87	46	-	-
Queens	91	34	100	19	-	3	-	3
York	93	14	-	-	92	13	-	-
TOTAL	91	262	100	19	74	145	-	5

2. Retention in Relation to Academic Performance: Credit Generation. Table 3.2 shows clearly that the retention rate among students earning less than 12 credits in their first term is lower than the retention rate among students earning 12 or more credits. This is true for all levels.

For the senior colleges as a whole, 1971 level B students who earned less than 12 credits were more likely to continue for their second semester than their 1970 counterparts. For students at other levels, there is little or no difference between the two cohorts. For the 1970 cohort, retention rates among students earning less than 12 credits were about the same regardless of high school average. Thus, the retention rate for level B students was 83%, for level A.1 students it was 84%, for level A.2 it was 83%, and for regular students it was also 83%. For the 1971 cohort the data suggest that level B students who begin college earning few credits are slightly less likely to leave than their peers at other levels.

We now consider these findings in terms of the individual colleges. Among the students earning less than 12 credits, the retention rate was higher in 1971 than in 1970 at all levels of high school average for the following colleges: Hunter and Lehman. At Brooklyn the trend was in the opposite direction; that is, students of the 1971 cohort who earned less than 12 credits showed a somewhat lower retention rate. For the other colleges there was no consistent pattern of change. What does emerge clearly, however, is that among the weakest group of students, the level B's, the likelihood of retention increased for the second (1971) open admissions class.

TABLE 3.2

Comparison of 1970 and 1971 Freshmen: One Semester Retention Rates in Relation to Credits Earned in First Semester (Senior Colleges)

Level B

	12 or more				Less than 12			
COLLEGE	70	N	71	N	70	N	71	N
Baruch	92%	12	-%	5	82%	72	90%	40
Brooklyn	92	12	-	2	84	31	83	12
City College	-	5	-	3	83	48	92	89
Hunter	-	6	-	2	83	36	100	8
Lehman	100	11	100	8	81	91	90	62
Queens	-	2	-	3	-	2	83	71
York	100	22	-	1	86	49	92	13
TOTAL	97	70	100	24	83	329	89	295

Level A.1

	12 or more				Less than 12			
COLLEGE	70	N	71	N	70	N	71	N
Baruch	98%	55	97%	39	91%	157	87%	207
Brooklyn	100	77	100	8	89	123	90	21
City College	99	74	100	88	86	171	83	479
Hunter	98	68	100	33	78	199	95	180
Lehman	98	103	100	104	82	181	87	246
Queens	93	15	-	5	86	36	86	22
York	92	91	98	51	83	86	89	124
TOTAL	97	483	99	328	84	953	87	1279

Level A.2

	12 or more				Less than 12			
COLLEGE	70	N	71	N	70	N	71	N
Baruch	98%	189	100%	168	85%	270	86%	324
Brooklyn	99	332	99	127	88	231	82	164
City College	98	261	98	237	84	332	82	577
Hunter	96	233	99	232	81	351	91	385
Lehman	97	447	99	370	70	275	76	301
Queens	99	204	97	103	89	234	77	111
York	93	224	99	145	84	133	84	168
TOTAL	97	1890	99	1382	83	1826	83	2030

Regular

	12 or more				Less than 12			
COLLEGE	70	N	71	N	70	N	71	N
Baruch	98%	268	98%	296	85%	135	87%	208
Brooklyn	99	2285	98	1912	88	494	88	454
City College	98	1014	99	603	84	401	85	[illegible]72
Hunter	95	1138	98	1143	78	523	82	435
Lehman	96	704	98	758	71	150	79	168
Queens	97	1844	97	1709	87	674	85	497
York	90	88	97	161	79	28	89	73
TOTAL	97	7341	98	6582	83	2405	85	2407

No High School Average

COLLEGE	12 or more 70	N	71	N	Less than 12 70	N	71	N
Baruch	-	-	-	-	-	1	-	1
Brooklyn	98	88	-	-	73	79	-	1
City College	-	-	-	-	-	4	-	-
Hunter	92	40	-	-	67	46	-	-
Lehman	87	45	-	-	86	42	-	-
Queens	100	18	-	2	80	20	87	31
York	95	19	-	-	89	9	-	-
TOTAL	94	210	-	2	76	201	85	33

3. Retention in Relation to Academic Performance: Credit Ratio. Data for this variable are presented in table 3.3. For every level of high school average, students who did not earn at least 75% of the credits attempted were considerably less likely to return for their second semester. The retention rate for those below a .75 credit ratio was about the same for the 1970 and 1971 freshmen. The data also indicate that level A.1 and regular students below a .75 credit ratio had lower retention rates than students at other levels.

With regard to individual colleges, there were some cases of substantial change when the 1970 and 1971 cohorts are compared. At Baruch and Lehman, level B students in the 1971 group who failed to earn a .75 credit ratio had higher retention rates than their 1970 counterparts. Among level A.1 students of the 1971 cohort, those below a .75 credit ratio at Hunter and York showed higher retention rates than the comparable 1970 group. On the other hand, the retention rates were lower for the 1971 cohort at Baruch and City College. For 1971 level A.2 students below .75, the retention rate was lower than for the 1970 freshmen at Baruch, Brooklyn, City College, and Queens. Only at Hunter was the retention rate higher for the 1970 group. Among regular students the only substantial change occurred at Queens where the retention rate for the 1971 freshmen earning less than .75 was lower than for the 1970 freshmen.

In summary, the data suggest that the credit ratio variable is more closely associated with retention than any of the other academic performance variables. That is, the difference in retention rates between those who were above .75 and those who were below is greater than for any other academic success criterion. Hunter emerges as the college where retention among those earning less than a .75 credit ratio was consistently higher for the 1971 group than for the 1970's. Results for other colleges were less consistent.

TABLE 3.3

Comparison of 1970 and 1971 Freshmen:
One Semester Retention Rates in Relation
To Credit Ratio (Senior Colleges)

Level B

	.75 or More				Less than .75			
College	70	N	71	N	70	N	71	N
Baruch	94%	48	100%	23	69%	36	82%	22
Brooklyn	90	20	-	5	83	23	78	9
City College	93	29	100	67	75	24	72	25
Hunter	100	14	-	4	79	28	-	6
Lehman	91	33	93	31	80	69	90	39
Queens	-	3	91	66	-	1	25	8
York	95	58	93	14	69	13	-	-
TOTAL	94	205	96	210	77	194	79	109

TABLE 3.3

Level A.1

	.75 or More				Less than .75			
College	70	N	71	N	70	N	71	N
Baruch	96%	132	98%	147	87%	80	76%	99
Brooklyn	99	116	100	17	86	84	83	12
City College	97	148	96	366	78	97	67	201
Hunter	92	144	99	110	73	123	92	103
Lehman	95	148	99	210	80	136	79	140
Queens	92	40	100	24	73	11	-	3
York	93	155	92	167	50	22	87	8
TOTAL	95	883	97	1041	79	553	76	566

Level A.2

	.75 or More				Less than .75			
College	70	N	71	N	70	N	71	N
Baruch	97%	322	98%	378	74%	137	66%	144
Brooklyn	99	432	98	200	81	131	69	91
City College	97	409	96	565	76	184	66	249
Hunter	95	399	97	407	69	185	88	210
Lehman	96	503	98	480	65	219	65	191
Queens	97	389	91	187	69	49	52	27
York	92	312	91	305	73	45	-	7
TOTAL	96	2766	96	2523	72	950	71	889

Regular

	.75 or More				Less than .75			
College	70	N	71	N	70	N	71	N
Baruch	97%	355	97%	429	71%	48	72%	75
Brooklyn	98	2492	98	2101	84	287	84	265
City College	97	1231	98	952	71	184	68	223
Hunter	94	1421	97	1360	67	240	71	218
Lehman	96	739	98	814	65	115	69	112
Queens	96	2395	96	2110	67	123	55	96
York	89	104	95	233	67	12	-	1
TOTAL	96	8737	97	7999	73	1009	72	990

No High School Average

	.75 or More				Less than .75			
College	70	N	71	N	70	N	71	N
Baruch	-	-	-	-	-	1	-	1
Brooklyn	97	100			70	67	-	1
City College	-	2	-	-	-	2	-	-
Hunter	88	65	-	-	52	21	-	-
Lehman	86	59	-	-	86	28	-	-
Queens	93	30	92	24	75	8	79	9
York	96	25	-	-	-	3	-	-
TOTAL	92	281	92	24	70	130	73	11

Results for Community Colleges

Table 3.4 presents one semester retention rates for the 1970 and 1971 freshmen. For both classes high school average is positively associated with retention. However, this association is somewhat weaker for the community college students than was observed for the senior college students. With the exception of regular 2 students, there were no substantial changes in rates from 1970 to 1971 for the community colleges as a group. However, among individual colleges, there are such changes. The retention rate for level B students was higher in 1971 than in 1970 at Manhattan and Staten Island. The reverse was true at NYCCC. For level A students 1971 retention was again higher at Manhattan and Staten Island, while it was lower at NYCCC. Regular 1 students of the 1971 cohort showed higher retention than the 1970 group at Manhattan, Queensborough, and Staten Island. The reverse was again true at NYCCC. The rates for Kingsborough were stable over both years. Overall, retention was higher for the second open admissions class at Manhattan, Staten Island, and, to some extent, Queensborough. The rate was lower at NYCCC. In absolute terms NYCCC, along with Kingsborough, show the highest one semester retention rates in 1970. However, in 1971 the one semester retention was lowest at NYCCC, while the rate was highest at Kingsborough, Staten Island, and Manhattan.

TABLE 3.4

Comparision of 1970 and 1971 Freshmen: Retention Rates after ore Semester By High School Average (Community Colleges)

LEVEL

	No H.S.	Average			B				A				Regular 1				Regular 2			
College	70	N	71	N	70	N	71	N	70	N	71	N	70	N	71	N	70	N	71	N
Kingsborough	35	324	62	84	81	732	81	436	86	691	84	577	86	369	87	446	90	102	87	152
LaGuardia	-	-	-	-	-	-	89	94	-	-	85	153	-	-	87	76	-	-	90	39
Manhattan	40	265	74	31	69	291	81	247	70	324	79	255	72	262	82	145	76	131	87	78
N.Y.C.C.C.	78	190	70	37	81	567	73	371	82	556	76	386	86	397	79	270	89	220	80	186
Queensborough	61	185	33	9	73	803	76	474	78	1020	78	853	78	790	84	779	70	317	84	309
Staten Island	37	291	76	25	69	381	75	503	72	572	82	547	83	440	85	396	81	297	87	260
Total	47	1255	66	186	76	2774	77	2031	79	3163	80	2618	81	2258	84	2036	80	1067	85	985

1. Retention in Relation to Academic Performance: Grade Point Average. The relation of retention to GPA for community college students is shown in table 3.4. At all levels students who failed to earn a 2.00 average had lower retention rates. For the 1970 freshmen the retention rates among this group were about the same for each level of high school average with the exception of regular 2 students. If they earned less than a C, they were considerably less likely to be retained than students from any other category of high school average. Only 61% of these students returned for the second semester as compared with 75% of the level B students. For the 1971 cohort, retention for those earning less than a C average was lower than for the 1970 enrollees. Regular 2 students were again considerably less likely to be retained, if they did not earn a 2.00 average in their first term. With regard to students who completed their first semester with an average of 2.00 or better, the retention rate in 1971 was higher than in 1970. This was true for every level of high school average.

We now consider the findings for the individual colleges. In general we have found that 1971 students who earned less than a 2.00 GPA in their first term were less likely to continue for the second semester than students in the 1970 cohort. This pattern occurs most strongly at Kingsborough. However, while the difference between the 1970 and 1971 one semester rates is greatest for this college, it is also the case that its retention rate (among those earning less than a 2.00 GPA) for both years is, on an absolute basis, the highest of any community college. Manhattan is the only college exhibiting a trend in the opposite direction; i.e., the retention rate is higher in 1971 than in 1970 (except for level A students). However, on an absolute basis, the retention rate among the slow starting students at Manhattan is, in almost every case, the lowest of any community college.

TABLE 3.5

Comparison of 1970 and 1971 Freshmen; One Semester Retention Rates in Relation to Grade Point Average (Community Colleges)

Level B

	2.00 or better				Less than 2.00			
COLLEGE	70	N	71	N	70	N	71	N
Kingsborough	91%	352	94%	201	92%	237	78%	203
Manhattan	79	224	97	166	52	23	70	50
NYCCC	96	258	93	162	78	256	72	148
Staten Island	78	139	97	186	68	216	69	242
Queensborough	86	249	94	171	71	480	71	257
TOTAL	87	1222	95	886	75	1212	72	900

Level A

	2.00 or better				Less than 2.00			
COLLEGE	70	N	71	N	70	N	71	N
Kingsborough	94%	423	94%	367	91%	189	73%	181
Manhattan	79	262	94	183	54	28	49	35
NYCCC	96	287	97	206	78	221	67	129
Staten Island	83	263	98	277	68	272	70	217
Queensborough	92	453	95	408	75	481	69	384
TOTAL	90	1688	95	1441	76	1191	69	946

Regular 1

	2.00 or better				Less than 2.00			
COLLEGE	70	N	71	N	70	N	71	N
Kingsborough	93%	282	94%	344	91%	53	70%	87
Manhattan	79	228	93	114	33	12	50	14
NYCCC	97	267	94	175	72	102	69	61
Staten Island	88	268	95	255	78	161	73	117
Queensborough	91	423	96	491	71	300	66	241
TOTAL	90	1468	95	1379	74	628	68	520

Regular 2

COLLEGE	2.00 or better 70	N	71	N	Less than 2.00 70	N	71	N
Kingsborough	94%	89	93%	130	100%	8	65%	17
Manhattan	82	118	97	68	-	4	-	3
NYCCC	97	169	95	141	68	47	59	22
Staten Island	89	229	95	212	63	54	62	34
Queensborough	84	222	96	232	53	66	48	56
TOTAL	89	827	95	783	61	179	55	132

No High School Average

COLLEGE	2.00 or better 70	N	71	N	Less than 2.00 70	N	71	N
Kingsborough	35%	201	82%	38	50%	66	57%	37
Manhattan	45	212	74	19	38	21	-	5
NYCCC	87	86	92	12	78	90	74	19
Staten Island	42	152	89	9	36	118	73	15
Queensborough	73	86	-	3	60	75	-	3
TOTAL	50	737	81	81	54	370	66	79

2. Retention in Relation to Academic Performance: Credit Generation. The results are presented in table 3.6. For both cohorts, students earning less than 12 credits exhibited lower retention rates. For the 1970 enrollees, the retention rates among those earning less than 12 credits were unrelated to high school average. That is, regular 1 students earning less than 12 credits have the same retention rate as level B students earning less than 12 credits. However, as we noted for the case of GPA, regular 2 students who earned less than 12 credits were more likely to leave after one semester than students at other levels. This was not the case for the 1971 cohort. For this group retention among those earning less than 12 credits is about the same (slightly under 80%) for students in all high school average categories. With the exception of regular 2 students, retention rates among those earning less than 12 credits were almost exactly the same in 1970 and 1971. That is no change is exhibited in this respect. For the regular 2 students there was an increase in the one semester retention rate of those earning less than 12 credits in 1971.

Among the individual colleges retention among students earning less than 12 credits was greater for the 1971 freshmen than for the 1970 freshmen at Manhattan and Staten Island. The retention rate was lower at Kingsborough and (with the exception of regular 2 students) at NYCCC.

TABLE 3.6

Comparison of 1970 and 1971 Freshmen: One Semester Retention Rates in Relation to Credits Earned in First Semester (Community Colleges)

Level B

	12 or more				Less than 12			
COLLEGE	70	N	71	N	70	N	71	N
Kingsborough	95%	247	95%	156	88%	356	80%	248
Manhattan	94	103	99	101	65	144	83	115
NYCCC	97	183	94	110	81	331	77	200
Staten Island	81	78	99	90	69	278	76	362
Queensborough	84	77	97	38	75	652	79	390
TOTAL	93	688	97	495	77	1761	78	1315

Level A

	12 or more				Less than 12			
COLLEGE	70	N	71	N	70	N	71	N
Kingsborough	99%	348	95%	322	84%	280	76%	226
Manhattan	86	145	94	126	68	145	76	92
NYCCC	98	238	98	159	80	270	74	176
Staten Island	87	164	96	142	71	372	81	362
Queensborough	93	179	95	168	81	755	79	624
TOTAL	94	1074	96	917	78	1822	78	1480

Regular 1

	12 or more				Less than 12			
COLLEGE	70	N	71	N	70	N	71	N
Kingsborough	96%	238	95%	285	82%	103	78%	146
Manhattan	80	155	95	79	72	85	78	49
NYCCC	98	226	98	135	78	143	72	101
Staten Island	90	210	97	151	78	219	81	226
Queensborough	97	245	97	265	76	478	80	467
TOTAL	93	1074	96	915	77	1028	79	989

Regular 2

	12 or more				Less than 12			
COLLEGE	70	N	71	N	70	N	71	N
Kingsborough	95%	84	98%	108	86%	14	67%	39
Manhattan	84	80	98	49	74	42	86	22
NYCCC	98	138	95	117	78	78	78	46
Staten Island	90	201	95	126	71	82	84	123
Queensborough	95	129	96	144	62	159	77	144
TOTAL	93	632	96	544	69	375	79	374

No High School Average

	12 or more				Less than 12			
COLLEGE	70	N	71	N	70	N	71	N
Kingsborough	49%	99	100%	10	32%	170	65%	65
Manhattan	47	98	90	10	42	135	71	14
NYCCC	91	45	86	7	79	131	79	24
Staten Island	49	85	-	4	35	185	80	20
Queensborough	79	33	-	-	64	128	50	6
TOTAL	57	360	90	31	48	749	70	129

3. Retention In Relation To Academic Performance: Credit Ratio. The data are presented in table 3.7. Students who earned less than 75% of the credits they attempted had lower retention rates than those earning more than 75% of credits attempted. Retention seems more closely associated with this variable than the other two academic success criteria. That is, the difference in retention rates between those with credit ratios above .75 and those below .75 is greater than for the previous two academic success criteria.

With the exception of level B students the retention rate among the 1971 freshmen earning less than 75% of credits attempted was lower than for the 1970 freshmen. The lowest retention rate among all high school average categories with a credit ratio of less than .75 occurs for the regular 2 students. Thus, among the level B 1970 students, the retention rate was 61%, while for the regular 2 students it was 46%.

The results suggest different patterns for individual colleges. At Kingsborough, 1971 level B and level A freshmen earning less than a .75 credit ratio had a considerably higher retention rate than their 1970 counterparts. At NYCCC the pattern is in the opposite direction. That is, the 1971 enrollees with a credit ratio below .75 had a lower retention rate (with the exception of regular students) than the 1970 group.

TABLE 3.7

Comparison of 1970 and 1971 Freshmen: One Semester Retention Rates in Relation To Credit Ratio (Community Colleges)

Level B

	.75 or more				Less than .75			
COLLEGE	70	N	71	N	70	N	71	N
Kingsborough	92%	586	94%	287	41%	17	65%	117
Manhattan	81	216	95	194	48	31	50	22
NYCCC	95	345	93	200	69	169	65	110
Staten Island	84	204	96	261	56	152	60	191
Queensborough	88	406	94	251	62	323	60	177
TOTAL	89	1757	95	1193	61	692	62	617

Level A

	.75 or more				Less than .75			
COLLEGE	70	N	71	N	70	N	71	N
Kingsborough	93%	616	94%	449	33%	12	54%	99
Manhattan	81	267	92	198	26	23	35	20
NYCCC	96	387	97	242	63	121	56	93
Staten Island	84	354	98	337	59	182	61	167
Queensborough	92	636	95	541	65	298	55	251
TOTAL	90	2260	95	1767	61	636	56	630

Regular 1

COLLEGE	.75 or more				Less than .75			
	70	N	71	N	70	N	71	N
Kingsborough	93%	336	95%	376	-%	5	53%	55
Manhattan	79	226	91	122	43	14	-	6
NYCCC	97	307	93	192	60	62	61	44
Staten Island	89	332	95	292	69	97	61	85
Queensborough	91	544	96	557	57	179	57	175
TOTAL	90	1745	95	1539	60	357	57	365

Regular 2

COLLEGE	.75 or more				Less than .75			
	70	N	71	N	70	N	71	N
Kingsborough	94%	98	93	137	-	-	40	10
Manhattan	82	116	96	69	-	6	-	2
NYCCC	96	184	95	150	59	32	31	13
Staten Island	90	251	93	228	44	32	48	21
Queensborough	84	242	96	245	37	46	33	43
TOTAL	89	891	95	829	46	116	37	89

No High School Average

	.75 or more				Less than .75			
COLLEGE	70	N	71	N	70	N	71	N
Kingsborough	42%	242	77%	47	11%	27	57%	28
Manhattan	45	203	77	22	37	30	-	2
NYCCC	90	115	88	17	69	61	71	14
Staten Island	43	176	92	12	33	94	67	12
Queensborough	76	109	-	3	48	52	-	3
TOTAL	54	845	80	101	42	264	63	59

RETENTION OF 1970 FRESHMEN THROUGH FOUR SEMESTERS

Introduction

A very important aspect of retention at CUNY concerns those students who leave, later to return to college. In a study of CUNY students, Max (1968) found that less than half graduated within four years. However, over 70% graduated within seven years -- a figure considerably higher than at other large universities. This suggests that a substantial number of CUNY students exhibit a pattern of leave and return. Although open admissions has not been in effect long enough to assess the presence of the pattern over a seven year period, data presented by Lavin and Jacobson (1973) showed that, among the 1970 freshmen, about a third of those who left after their first semester had returned for the third. For this class, we can now present additional data covering the first four semesters of open admissions.

Definitions

The data are summarized in terms of the following variables: retention rate, net retention rate, and fourth semester return rate. The retention rate is simply the proportion of the original cohort of freshmen who entered in Fall, 1970, who registered for all of the first four semesters at any college in CUNY. The net retention rate is defined by those students who were present for all four semesters, plus those students who left, returned, and were present in CUNY for the fourth semester, whether or not they returned to the college at which they originally matriculated.[3]

The fourth semester return rate is the proportion of all dropouts who returned and were present at any CUNY college in the fourth semester.

Our data on retention, net retention, and return are considered in the following manner: First, we discuss findings for CUNY as a whole. Second, we consider aggregate findings for the senior colleges and for community colleges. Third, we discuss data for individual colleges.

Retention

Data on retention and net retention rates are presented in table 3.8. The overall CUNY data show that, of the students who matriculated in the Fall of 1970, 63% were present for all four semesters. As has been demonstrated in almost all other studies of student retention, there was a substantial difference between the senior and community colleges: 72% of the students at the former and 52% at the latter were present for their first four semesters. When we consider the students who were in attendance without interruption, as well as the students who left, returned, and were present in the fourth semester (the net retention rate), we see that the proportion of the original cohort still in attendance was somewhat larger. Whereas the retention rate for the university as a whole was 63%, the net retention rate was 70%. This net rate was higher for the senior colleges (77%) than for the community colleges (61%). However, at the latter the difference between the retention and net retention rates was slightly greater.

Among the senior colleges, the schools with the highest net retention rate were Brooklyn College and Queens College, while

TABLE 3.8

Retention and Net Retention Rates by College
Fall 1970 Freshman Class

College	Total Matriculants	Total Present All Four Sem.	Retention Rate	Total Present In Fourth Sem.	Net Retention Rate
Baruch	1180	821	70%	851	72%
Brooklyn	3799	3118	82	3221	85
City College	2409	1724	72	1804	75
Hunter	2791	1935	69	2092	75
John Jay	918	521	57	582*	63*
Lehman	2107	1315	62	1482	70
Queens	3121	2406	77	2512	80
York	755	521	69	573	76
SENIOR COLLEGE TOTALS	17080	12361	72	13117	77
Manhattan	1273	608	48%	858	67%
Bronx	1561	912	58	1028*	66*
Hostos	573	289	50	333*	58*
Kingsborough	2218	1208	54	1398	63
NYCCC	1930	1111	58	1183	61
Queensborough	3115	1457	47	1728	55
Staten Island	1981	930	47	1185	60
COMMUNITY COLLEGE TOTALS	12651	6515	52	7713	61
CUNY TOTALS	29731	18876	63	20830	70

* Estimated

those with the lowest were John Jay and Lehman. At the community colleges the highest net retention rate was exhibited by Borough of Manhattan, while Queensborough had the lowest rate.

We now consider retention rates in relation to high school average. Table 3.9 presents the data for level B students. For the university as a whole, the net retention rate was 56%. The senior college rate (59%) was slightly higher than the community college rate (56%). Among the senior colleges, retention was greatest at York (77%). It was lowest at City College (49%) and Lehman (50%). Among the community colleges, the net retention rate was highest at Manhattan and Bronx (64%), while it was lowest at Queensborough (48%) and Staten Island (50%).

We next consider the findings for students whose high school averages were between 70.0-74.9% (level A.1 at senior colleges and level A at community colleges). The data are presented in table 3.10. For this group the net retention rate for the University was 63%. Retention was higher at the senior colleges (68%) than at the community colleges (60%).

Among the individual senior colleges, retention was greatest at Brooklyn (72%), Hunter (71%), and York (71%). It was lowest at Lehman (60%). Kingsborough, Bronx and Borough of Manhattan were the community colleges with the highest net retention rate, while Queensborough (57%) had the lowest rate.

Table 3.11 presents the data for students with high school averages in the 75.0-79.9% interval. Seventy percent of these students were enrolled during the fourth semester. Senior college students were more likely to have been in college (73%) than community college students (67%).

Retention and Net Retention Rates for Level B Students by College
(Fall 1970 Freshman Class)

College	Total Matriculants	Total Present All Four Sem.	Retention Rate	Total Present In Fourth Sem.	Net Retention Rate
Baruch	89	46	52%	54	61%
Brooklyn	43	26	60	26	60
City College	68	29	43	33	49
Hunter	53	27	51	31	58
John Jay	372	193	52	219*	59*
Lehman	104	41	39	52	50
Queens	6	2	-	2	-
York	71	52	73	55	77
SENIOR COLLEGE TOTALS	806	416	52	472	59
Manhattan	291	146	50	187	64
Bronx	565	316	56	362*	64*
Hostos	259	119	46	140*	54*
Kingsborough	732	385	53	416	57
NYCCC	567	294	52	323	57
Queensborough	803	310	39	383	48
Staten Island	381	155	41	191	50
COMMUNITY COLLEGE TOTALS	3598	1725	48	2002	56
CUNY TOTALS	4404	2141	49	2474	56

* Estimated

TABLE 3.10

Retention and Net Retention Rates for Level A.1 (Senior Colleges) and Level A (Community Colleges) Students by College (Fall 1970 Freshman Class)

College	Total Matriculants	Total Present All Four Sem.	Retention Rate	Total Present In Fourth Sem.	Net Retention Rate
Baruch	216	139	64	149	69
Brooklyn	204	139	68	147	72
City College	271	168	62	179	66
Hunter	289	175	61	204	71
John Jay	468	281	[illegible]0	314**	67**
Lehman	295	150	51	177	60
Queens	55	32	58	37	67
York	178	115	65	127	71
SENIOR COLLEGE TOTALS	1976	1199	61	1334	68
Manhattan	324	163	50	206	64
Bronx	543	315	58	353*	65*
Hostos	194	97	50	111*	57*
Kingsborough	691	426	62	448	65
NYCCC	556	314	56	327	59
Queensborough	1020	497	49	583	57
Staten Island	572	272	48	329	58
COMMUNITY COLLEGE TOTALS	3900	2084	53	2357	60
CUNY TOTALS	5876	3283	56	3691	63

* Estimated

** Estimated - includes all Level A Students

Among the senior colleges, students at Brooklyn had the highest net retention rate (81%). Lehman (69%) and Baruch (69%) students had the lowest net retention rate. Kingsborough showed the highest net retention rate among the community colleges (75%), while Queensborough (59%) exhibited the lowest rate.

Table 3.12 presents the data for students with high school averages of 80% and above. The net retention rate for these students was 81%. The rate for the senior colleges (82%) was considerably higher than the rate for the community colleges (69%).

Among the senior colleges, the net retention rate was highest at Brooklyn (88%), while the lowest rate was at John Jay (63%). For the community colleges, Kingsborough (75%) and Manhattan (74%) showed the highest net retention rate, while Queensborough (61%) again had the lowest rate.

Table 3.13 provides the data for the group of students who either have no high school average or for whom this information was missing from our files. For this group the net retention rate for the university as a whole was 60 percent. It was higher at the senior colleges than at the community colleges.

Three main points emerge from these data. First, when students who left, returned, and were present in the fourth semester were added to those who were matriculated without interruption, the retention rate is increased. Second, both the retention rate and the net retention rate were higher at the senior colleges than at the community colleges. Third, both rates were positively associated with high school average. That is, as high school average increases, the greater is the probability that students who entered the university in the Fall, 1970, would be in attendance for the fourth semester.

TABLE 3.11
Retention and Net Retention Rates for Level A.2 (Senior Colleges) and Regular 1 (Community Colleges) Students by College (Fall 1970 Freshman Class)

College	Total Matriculants	Total Present All Four Sem.	Retention Rate	Total Present In Fourth Sem.	Net Retention Rate
Baruch	466	314	67%	320	69%
Brooklyn	573	449	78	462	81
City College	621	416	67	441	71
Hunter	618	416	67	452	73
John Jay	-*	-	-	-	-
Lehman	747	445	60	516	69
Queens	458	316	69	334	73
York	362	254	70	278	77
SENIOR COLLEGE TOTALS	3845	2610	68	2803	73
Manhattan	262	140	53	178	68
Bronx	453	281	62	313**	69**
Hostos	120	73	61	82**	68**
Kingsborough	369	255	69	277	75
NYCCC	397	267	67	283	71
Queensborough	790	417	53	469	59
Staten Island	440	262	59	292	66
COMMUNITY COLLEGE TOTALS	2831	1695	60	1894	67
CUNY TOTALS	6676	4305	64	4697	70

* Data unavailable
** Estimated - includes all Regular students (Regular 1 + Regular 2)

TABLE 3.12

Retention and Net Retention Rates for Regular (Senior Colleges) and Regular 2 (Community Colleges) Students by College (Fall 1970 Freshman Class)

College	Total Matriculants	Total Present All Four Sem.	Retention Rate	Total Present In Fourth Sem.	Net Retention Rate
Baruch	408	322	79%	328	80%
Brooklyn	2808	2395	85	2466	88
City College	1445	1110	77	1150	80
Hunter	1740	1262	72	1342	77
John Jay	78	47	60	49*	63*
Lehman	873	644	74	685	78
Queens	2562	2032	79	2114	83
York	116	79	68	90	78
SENIOR COLLEGE TOTALS	10030	7891	79	8224	82
Manhattan	131	85	65	97	74
Bronx	-**	-	-	-	-
Hostos	-**	-	-	-	-
Kingsborough	102	71	70	77	75
NYCCC	220	150	68	154	70
Queensborough	317	164	52	194	611
Staten Island	297	177	60	211	71
COMMUNITY COLLEGE TOTALS	1067	647	61	733	69
CUNY TOTALS	11097	8538	77	8957	81

* Estimated

** Data unavailable

TABLE 3.1 3

Retention and Net Retention Rates for Students with No High School Average by College
(Fall 1970 Freshman Class)

College	Total Matriculants	Total Present All Four Sem.	Retention Rate	Total Present In Fourth Sem.	Net Retention Rate
Baruch	1	-	-	-	-
Brooklyn	171	109	64	120	70
City College	4	1	-	1	-
Hunter	91	55	60	63	69
John Jay	-	-	-	-	-
Lehman	88	35	40	52	59
Queens	40	24	60	25	62
York	28	21	75	23	82
SENIOR COLLEGE TOTALS	423	245	58	284	67
Manhattan	265	74	28	190	72
Bronx	-	-	-	-	-
Hostos	-	-	-	-	-
Kingsborough	324	71	22	180	56
NYCCC	190	86	45	96	5
Queensborough	185	69	37	99	54
Staten Island	291	64	22	162	56
COMMUNITY COLLEGE TOTALS	1255	364	29	727	58
CUNY TOTALS	1678	609	36	1011	60

Return Rates

An important aspect of retention analyses concerns students who leave college and subsequently return. An earlier report (Lavin and Jacobson, 1973) indicated that about one-third of the 1970 freshmen who left after their first semester of college came back for the third semester.[4] We can now extend these findings for an additional semester: of all CUNY students who left at any time during the first three semesters, 18% returned and were in attendance for the fourth semester. The summary data are presented in table 3.14. Return rates were slightly higher for the community colleges (20%) than for the senior colleges (16%).

Return rate data for level B students are presented in table 3.15. The university-wide rate was 15%. Senior colleges and community colleges had almost the same rate. However, there was considerable variation among individual campuses. For the senior colleges, almost 20% of the level B students who left Baruch College returned and were present for the fourth semester. This was true for only 10% of those from City College. Among the community colleges, the return rate at Borough of Manhattan was about 28%, while at Kingsborough and NYCCC, it was about 10%.

Table 3.16 presents data for students whose high school average was between 70.0-74.9%. Overall, the return rate was 16%. Community college figures were similar to those for senior colleges. Hunter College students had the greatest probability of returning, while City College, Brooklyn, and Baruch had the lowest fourth semester return rates. At the community colleges, students who left Borough of Manhattan Community College were five times as likely to return as their counterparts at NYCCC.

TABLE 3.14

Fourth Semester Return Rates by College

College	Number of Students Who Left	Total Returns Present 4th Semester	4th Semester Return Rate
Baruch	359	30	8%
Brooklyn	681	103	15
City College	685	80	12
Hunter	856	157	18
John Jay	397	61*	15*
Lehman	792	167	21
Queens	715	106	15
York	234	52	22
SENIOR COLLEGE TOTALS	4719	756	16
Manhattan	665	250	38%
Bronx	649	116*	18*
Hostos	284	44*	15*
Kingsborough	1010	190	19
NYCCC	819	72	9
Queensborough	1658	271	16
Staten Island	1051	255	24
COMMUNITY COLLEGE TOTALS	6136	1198	20
CUNY TOTALS	10855	1954	18

* Estimated

TABLE 3.15

Fourth Semester Return Rates by College for Level B Students

College	Number of Students Who Left	Total Returns Present 4th Semester	4th Semester Return Rate
Baruch	43	8	19%
Brooklyn	17	-	-
City College	39	4	10
Hunter	26	4	15
John Jay	179	26*	15*
Lehman	63	11	17
Queens	4	-	-
York	19	3	16
SENIOR COLLEGE TOTALS	390	56	14
Manhattan	145	41	28
Bronx	249	46*	18*
Hostos	140	21*	15*
Kingsborough	347	31	9
NYCCC	273	29	11
Queensborough	493	73	15
Staten Island	226	36	16
COMMUNITY COLLEGE TOTALS	1873	277	15
CUNY TOTALS	2263	333	15

* Estimated

TABLE 3.16

Fourth Semester Return Rates by College for Level A.1 (Senior Colleges) and Level A (Community Colleges) Students

College	Number of Students Who Left	Total Returns Present 4th Semester	4th Semester Return Rate
Baruch	77	10	13%
Brooklyn	65	8	12
City College	103	11	11
Hunter	114	29	25
John Jay	187	33*	18*
Lehman	145	27	19
Queens	23	5	22
York	63	12	19
SENIOR COLLEGE TOTALS	777	135	17
Manhattan	161	43	27
Bronx	228	38**	17**
Hostos	97	14**	14**
Kingsborough	265	22	8
NYCCC	242	13	5
Queensborough	523	86	16
Staten Island	300	57	19
COMMUNITY COLLEGE TOTALS	1816	273	15
CUNY TOTALS	2593	408	16

* Estimated (includes all level A students - A1 + A2)

** Estimated

75.0-79.9% interval are presented in table 3.17. Sixteen percent of students in this category returned for the fourth semester. Again, senior and community colleges had similar return rates.

Lehman (24%) and York (22%) showed the highest return rates, while Baruch (4%) and Brooklyn (10%) exhibited the lowest rates. Among community colleges, the return rate for students at Borough of Manhattan was 31%. At NYCCC the rate was 12%.

Table 3.18 presents the data for students who were graduated from high school with an average of 80% or above. The return rate for these students was 16%. The difference between senior (16%) and community colleges (20%) was relatively small.

Among the individual senior colleges, 30% of York students who left college returned for the fourth semester. This was true for only 6% at John Jay and 7% at Baruch. Among community colleges, the return rate at Borough of Manhattan was 26%, as contrasted with NYCCC where it was 6%.

The data for students without high school averages are shown in table 3.19. The overall return rate for this group was 38%. There was a substantial difference between senior and community colleges. At the latter, the return rate was 41%, while at the former it was 22%. While we note this difference, we are unable to interpret the finding at this time.

In summary, the return rate for the University as a whole was 18%. At the senior colleges, high school average was unrelated to the return rate. At the community colleges, there was a slight tendency for high school average to be positively associated with return rate.

TABLE 3.17

Fourth Semester Return Rates by College for Level A.2 (Senior Colleges) and Regular 1 (Community Colleges) Students

College	Number of Students Who Left	Total Returns Present 4th Semester	4th Semester Return Rate
Baruch	152	6	4%
Brooklyn	124	13	10
City College	205	25	12
Hunter	202	36	18
John Jay	-*	-*	-*
Lehman	302	71	24
Queens	142	18	13
York	108	24	22
SENIOR COLLEGE TOTALS	1235	193	16
Manhattan	122	38	31
Bronx	172	32**	19**
Hostos	47	9**	19**
Kingsborough	114	22	19
NYCCC	130	16	12
Queensborough	373	52	14
Staten Island	178	30	17
COMMUNITY COLLEGE TOTALS	1136	199	18
CUNY TOTALS	2371	392	17

* Data unavailable

** Estimated (includes Regular 1 and Regular 2 students)

TABLE 3.18

Fourth Semester Return Rates by College for Regular (Senior Colleges) and Regular 2 (Community College) Students

College	Number of Students Who Left	Total Returns Present 4th Semester	4th Semester Return Rate
Baruch	86	6	7%
Brooklyn	413	71	17
City College	335	40	12
Hunter	478	80	17
John Jay	31	2*	6*
Lehman	229	41	18
Queens	530	82	15
York	37	11	30
SENIOR COLLEGE TOTALS	2139	333	16
Manhattan	46	12	26
Bronx	-**	-**	-**
Hostos	-**	-**	-**
Kingsborough	31	6	19
NYCCC	70	4	6
Queensborough	153	30	20
Staten Island	120	34	28
COMMUNITY COLLEGE TOTALS	420	86	20
CUNY TOTALS	2559	419	16

* Estimated

** Data unavailable

TABLE 3.19

Fourth Semester Return Rates by College for Students With No High School Average

College	Number of Students Who Left	Total Returns Present 4th Semester	4th Semester Return Rate
Baruch	1	-	-
Brooklyn	62	11	18
City College	3	-	-
Hunter	36	8	22
John Jay	-	-	-
Lehman	53	17	32
Queens	16	1	6
York	7	2	29
SENIOR COLLEGE TOTALS	178	39	22
Manhattan	191	116	61
Bronx	-	-	-
Hostos	-	-	-
Kingsborough	253	109	43
NYCCC	104	10	10
Queensborough	116	30	26
Staten Island	227	98	43
COMMUNITY COLLEGE TOTALS	891	363	41
CUNY TOTALS	1069	402	38

Comparison of National and CUNY Data

One of the difficulties concerning the interpretation of CUNY retention data is that no commonly accepted standards exist which define a "high" or a "low" rate. One way of approaching this question is to compare CUNY data with findings at the national level. Thus, a "high" rate could be defined as any figure exceeding the national rate, and a low rate would be any figure less than the national rate.

The most recent national data have been presented by Astin (1972). This study followed a national cohort of students who entered college as freshmen in the Fall of 1966. For this group, one year follow-up data were collected in the Fall of 1967, and four year follow-up data were obtained during the Fall and Winter of 1970-71. This second follow-up occurred four years after original enrollment. Thus, the students in this cohort who attended four year colleges, if they were "on schedule", would have been graduated in June (1970).

Astin does not present retention data for the same time period, four semesters, covered in this report on the cohort that entered in 1970. He provides data describing retention and degree attainment through eight semesters. While the time periods are not the same, it is useful to compare the two sets of data: such comparisons provide an assessment of the degree to which the CUNY four semester retention data approach the eight semester threshold provided by the national data. (Of course, CUNY is not a "typical" university. Compared with students nationally, its student body has characteristics, such as lower socioeconomic status, which are more likely to result in lower retention rates.).

The data are presented in table 3.20. The comparisons show that

TABLE 3.20

High School Average and Retention: Comparison of National and CUNY Data.

High School Average	2 Year Colleges National*	2 Year Colleges CUNY**	4 Year Colleges National*	4 Year Colleges CUNY**
80+	46	69	63	82
75-79	41	67	48	73
70-74	31	60	38	68
Less Than 70	29	56	38	59

* Retention rates for eight semesters (Source: Astin, 1972,pp.20,22)

** Retention rates for four semesters

the four semester CUNY net retention rates are considerably higher than the eight semester national rates. The significance of this is that the CUNY cohort can withstand considerably more attrition before it approaches the national eight semester threshold.

SUMMARY

This chapter has considered retention data for the first two freshmen classes entering CUNY since the inception of open admissions. These classes were first compared with regard to one semester retention rates, and the relation of these rates to various characteristics of student academic performance. Second, analyses of retention over four semesters were conducted for the 1970 enrollees.

Among the senior colleges, retention after one semester was positively associated with high school average. That is, students with high school averages of above 80 had higher retention rates than students with averages below 70. In general, academic performance during the first semester of the freshmen year was positively associated with retention. Students who achieved at least a 2.00 average, who earned 12 or more credits, and who earned at least 75% of the credits they attempted were more likely to return for their second semester than students who failed to achieve these criteria. Of all academic indices, credit ratio was most closely related to retention. All academic performance indices seem to be more closely related to retention than high school average itself. That is, students who failed to meet the minimal performance criteria (2.00 GPA, 12 or more credits, .75 credit ratio) were about as likely to drop out whether they were level B, level A.1, level A.2, or regular. In general, the relation between performance criteria and retention was the same for both the 1970 and 1971 cohorts.

Among the community colleges, one semester retention was positively associated with high school average, but to a somewhat lesser degree than for the senior colleges. Academic performance in college was more closely related to retention than high school average. That is, how a student did in his first term was a better predictor of retention than his high school performance. Among students who did not meet the minimum performance criteria, retention was lower in 1971 than in 1970 for two of the three performance indices. The performance variable most closely related to retention was the credit ratio. In general the likelihood of dropout was greatest among regular 2 students whose academic performance was weak in the first semester.

Among the freshmen who entered CUNY in Fall, 1970, 63 percent were enrolled without interruption in each of their initial four semesters. Approximately 70 percent were enrolled in CUNY during Spring, 1972, the fourth semester since their original enrollment. At the senior colleges, more than 75 percent were in attendance during the fourth semester; this was true for about 60 percent of the students from the community colleges. At both, high school average was positively associated with retention (for a summary of these findings, see table 3.21).

Among students who left college, 18 percent returned and were present for the fourth semester. While students who left community colleges were more likely to return than those from senior colleges the differences were quite small.

With regard to net retention rates, there was considerable variation among the colleges of CUNY. There was even more variation in the rates of return.

TABLE 3.21

Net Retention Rates for Senior and Community Colleges by High School Average: Fall 1970 Freshman Class Through Four Semesters

High School Average (CAA)	Senior Colleges	Community Colleges	Total CUNY
80+	82%	69%	81%
75-79	73	67	70
70-74	68	60	63
Less than 70	59	56	56
TOTAL	77% (17,080)	61% (12,651)	70% (29,731)

When the CUNY net retention data over four semesters are compared with national data, over eight semesters, it is apparent that considerably more attrition will have to occur before the CUNY net retention rate approaches the threshold defined by the national data.

For all of the above analyses, individual campuses frequently depart from the CUNY-wide aggregate trends.

NOTES

1. Many supporters and opponents of open admissions uncritically accept the idea that attrition is a "negative" outcome of education. In many cases this may be untrue, both from the viewpoint of the student and the university. We believe, for example, that a set of courses, particularly in community colleges, may provide students with skills which allow them to find more desirable jobs. From this vantage point, attendance, even if followed by leave, had a "positive" outcome. In short, even a truncated exposure to higher education may help improve a person's quality of life.

2. Estimates have been made in the following manner: At John Jay College, the average difference between retention and net retention rates for senior colleges has been added to the retention rate. This generated the net retention rate for John Jay. For Bronx and Hostos the same procedure was followed except that we have used the average difference for community colleges.

3. Students who return to a CUNY college other than the one at which they originally enrolled were counted as part of the net retention rate for their original college.

4. Of this group of second semester students who left, about 32% had returned and were also present for the fourth semester.

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CHAPTER 4

ASSESSMENT OF COMPENSATORY PROGRAMS

INTRODUCTION

Prior to the beginning of open admissions, when the university was developing plans to implement the program, it was expected that substantial numbers of students would be entering the University with deficient academic skills. Therefore, major attention was devoted to the development of compensatory programs whose goal was to raise student academic skills so that they would be able to do college work successfully.

Every campus was expected to implement a plan of compensatory education. However, since CUNY is a federated rather than a centralized institution, the specific style with which it was formulated was left largely to the discretion of each campus. The result has been a considerable degree of diversity. We wish to describe at least some of the general dimensions of the compensatory programs. Compensatory or remedial work (we use these terms interchangeably) generally focuses on the improvement of academic skills in the verbal and quantitative areas. With regard to the former, course work is offered in written composition, reading comprehension, and study skills. In the quantitative area, course work is intended primarily to provide preparation which may have been missing in high school. Even though students may not major in mathematics, there are many courses which presume at least a minimal level of quantitative skill (for example, being able to read and interpret statistical tables in the social sciences, or to conduct simple experiments in laboratory sciences).

The approach to the teaching of these formal compensatory courses varies considerably. In some cases there is considerable emphasis upon the use of ancillary audio-visual resources (e.g., video tapes, cassettes, and the like). Such courses generally carry no academic credit. Where credit is offered, it is usually less than the normal amount. In some cases, the content of the compensatory course is very similar to the content of non-remedial courses. In these instances, what defines a course as compensatory is the time period over which it is offered. Thus, a freshman english course may be "stretched out"; it may meet for more hours than a regular course, or over two semesters rather than one.

Another aspect of the compensatory effort involves tutoring. On at least one campus the tutoring effort almost entirely defined the compensatory policy at the beginning of open admissions. On other campuses, tutoring is available to those who wish to use it. On still other campuses tutoring may be closely integrated with formal remedial courses.

Other dimensions on which remedial programs vary are as follows: on some campuses entrance to remedial courses is a voluntary matter, while on others it is mandatory. Placement criteria vary: on some campuses there are elaborate procedures depending heavily on the use of standardized diagnostic placement tests. On other campuses placement may be based more on characteristics of the high school record. The criteria for exit from remedial courses are also variable, and the manner of assessing qualifications for exit may vary.

Another important aspect of the compensatory effort at CUNY involves restrictions on credit loads. The philosophy underlying this policy is straightforward: it is thought that students who enter college with weak academic skills will have a better chance for academic success if they are eased gradually into the mainstream of college work. Inasmuch as remedial courses generally carry little or no credit, students who take a heavy remedial load will, by definition, attempt fewer credits. However, there is a certain degree of independence between remediation and restricted credit load.

Measurement Of Compensatory Experience

This chapter does not present data pertaining to all of the variations in compensatory policies described above. The development of measures of remediation involved a number of steps. First, a list of remedial courses offered on each campus was compiled from a combination of sources, primarily college catalogues, registrars' reports, and, most important, lengthy interviews with faculty in departments offering remedial work. From this information we have developed a remedial course file and have derived two remediation variables: (1) we calculated the number of remedial courses taken during the first term of the freshman year; (2) we have calculated the distribution of remedial courses taken during the entire freshman year. That is, a student could have taken no remediation, remediation in the fall only, spring only, or for both terms. These indices constitute the definition of remediation in the analyses to follow.

With regard to credit loads, we have defined a full load as 12 or more credits in a given term. Anything less than this is defined as a restricted credit load. Here we distinguish between students who take 8-11.99 credits and students who attempt less than 8.

The remediation indices are subject to a number of limitations which must be pointed out. First, the indices consider remedial courses without regard to content. That is, in this report we have not distinguished whether the courses have been taken in the areas of math, english, or reading.

Second, on certain campuses we believe that our file of remedial courses is inadequate.[1] For example, we are informed that at Brooklyn College compensatory courses are frequently labelled as sections of regular courses. To this point, section data have never been collected. Therefore, such remedial sections would not be identified in our master remedial course file.

In addition we have not measured other kinds of compensatory work to which students may have been exposed; e.g., tutoring. Moreover, important variations in remedial course characteristics, such as whether the courses were offered for credit or no credit, are not utilized in the analyses to follow.

Because of the limitations noted above, we regard the analyses presented in this chapter as preliminary. Essentially, they assess the effects of remediation, undifferentiated as to content, on various indices of academic performance. If remediation is effective, it should have some visible impact on such gross measures as a student's overall grade point average. More precise analyses would consider whether mathematics remediation is related to grades in subsequent mathematics courses, or courses in which quantitative skills are important for success. More precise analyses of this type will be conducted and results described in forthcoming reports by the Office of Program and Policy Research.

Criteria for Assessing Compensatory Programs

Is compensatory education working? How to answer this important question is a much more complicated issue than is implied by the apparent simplicity of the question. In the first place, there is the problem of how to measure the impact of remediation. Without going into the methodological details, one approach would be to administer standardized tests before and after the remedial experience. We were able to do this for only a few campuses which were willing and/or able to cooperate effectively in the administration of post-tests. These data have not yet been fully analyzed, and, in any event, they provide an inadequate data base for evaluating remediation. We therefore measure the outcomes of compensatory programs in terms of academic performance criteria. That is, we shall assess whether the compensatory experience in any way increases the level of student academic performance. This is, afterall, the aim of compensatory programs.

A difficult question remains. What level of academic performance should be deemed evidence of program impact? Should remedial students ultimately be expected to perform at the level of those regular students who would have gained entrance to the university without open admissions,and who required no compensatory work? We believe such a criterion to be unduly stringent-even harsh.

It is unrealistic to expect that a semester or even a full year of remediation can overcome the effects of at least 12 prior years of inadequate educational resources (whether these are located in the school, family, or larger socio-cultural milieu).

We believe that a more realistic and fair question is the following: Do students who take remediation,or who begin with restricted credit loads,perform at least as well as students with similar high school averages who did not take remediation? An important assumption underlying this question is that within any high school average category (such as level B), those who take compensatory work have weaker academic skills than those who do not. In a previous report, Lavin and Jacobson (1973) made this assumption. As we shall see in a subsequent section, test data indicate that in most cases this assumption was valid. Therefore, within any high school average category, if compensatory students perform as well on academic achievement criteria as noncompensatory students within the same category of high school average, this will be considered evidence supporting the effectiveness of compensatory programs. In cases where remedial students are similar to non-remedials in academic skills, remediation is considered effective only if the remedial group performs better than the non-remedials.

Organization of the Chapter

There are three aspects of the data presentation. First, we compare the 1970 and 1971 freshmen with regard to the need for, and delivery of remedial services. Second, we compare these two groups with regard to the impact of compensatory courses. This is done first for the senior college students and then for the community college students. Third, for the 1970 freshmen we assess the longer term impact of remediation. In particular, we consider academic performance in the sophomore year in relation to compensatory experiences during the freshman year.

NEED FOR REMEDIAL SERVICES AND THEIR DELIVERY

Prior to entering CUNY, the 1970 and 1971 freshmen were given a standardized test designed to measure academic skills in the verbal and quantitative areas. The Stanford Achievement Tests were used (and are hereafter designated as the Open Admissions Test, or OAT). The test was designed to provide the CUNY central office and each campus with a preliminary estimate of the proportions of students who would need remedial services. Not all high school seniors who had applied to CUNY took the test, and many of those who did take it did not enter CUNY. Nevertheless, we have test data for a substantial number of students who were freshmen both in 1970 and in 1971.

We wish to describe the results of the testing program. This provides an estimate of the need for remedial services among the 1970 and 1971 entering freshmen. Once this has been established, we may then consider the relationship between need and the delivery of such compensatory services.

What is the definition of "need for remedial services"? We have used criteria originally set by the CUNY division of Teacher Education (Kay, 1970). For the OAT reading test, students were defined as needing "intensive" remediation, "some" remediation, or no remediation. A student whose reading score placed him among the bottom 30 percent of ninth grade students was considered to be in need of intensive remediation. A student whose score placed him in the bottom 30 percent of college preparatory high school seniors was defined as needing some remediation. Students above this cut-off point were not considered to be in need of remediation.

For the OAT Math test (actually a junior high school level numerical computation test) a student who scored among the bottom 25 percent of end-of-year ninth graders was considered to need intensive remediation. A student whose score was not higher than the 60th percentile for end of ninth grade students was deemed in need of some remediation (if math was a requirement for graduation at any given campus).

Inasmuch as our analyses of remediation will not distinguish as to type (i.e., whether it is remedial english, math, etc.), we have developed only a general index of the need for remediation. The criteria are presented in the following chart:

Criteria Defining Need for Remediation

OAT Reading Test	OAT Math Test: Need Intensive Rem.	OAT Math Test: Need Some Rem.	OAT Math Test: No Rem. Needed
Need Intensive Rem.	Yes	Yes	Yes
Need Some Rem.	Yes	Yes	
No Rem. Needed	Yes		

All students whose constellation of scores on both math and reading tests placed them in a cell labeled "yes" are defined as needing remediation. It should be noted that the OAT test was not intended for use as a placement device. (However, it was used in this fashion by some colleges). Furthermore, the OAT tends to be rather highly correlated with other tests of achievement, whether these are screening tests or diagnostic tests. Therefore, a student defined as needing remediation on the basis of OAT score constellations, would most likely be defined as in need of remediation, using some other test. Thus, we believe that the use of the OAT is a reasonable way to define the need for remediation, even though it may not have been used for placement purposes on most campuses.

A word should be said about the OAT math test. Some may find it rather amazing that students who scored above the 60th percentile for 9th grade students were considered as not needing remediation. It must be understood that we are not talking about the skills requisite for a major in mathematics. Rather, we are talking about basic numeric competence. In functional terms, a student defined as not in need of remediation is one who should be able to read and interpret simple statistical tables that might constitute a reading assignment in a sociology or psychology course. That is, the intent of the OAT math test was simply to identify the number of students who did not have the minimal numerical skills to complete most college courses.

Tables 4.0 - 4.3 present data on the relationship between need for remediation and the delivery of remedial services. It should be noted that the percentages describing need and delivery derive from different data bases. That is, the percentages defined as in need of remediation are based upon those students who took the OAT. Not all matriculants took the OAT. The percentages describing the delivery of remedial services are based on those enrolled students receiving remediation, regardless of whether they took the OAT. Since those who took the OAT are only a sub-set of enrolled students, the data have limitations. First, it does not follow that those who needed remediation were, in all cases, those who actually received it. Some students who took remediation were not defined by OAT scores as needing it. Second, the estimate of need for remediation can be extrapolated to the entire group of enrollees, only if one assumes that the sub-set of those who took the test is representative of all enrollees. In order to assess this assumption, we have analyzed the relationship between need and delivery only for the sub-set who took the OAT. These analyses (not presented here) indicate that the assumption is correct. The relationship between need for, and delivery of remedial services is almost identical with the data presented in tables 4.0-4.3. Furthermore, there are students who needed remediation who did not receive it, and, conversely, some who did not need it (according to the OAT) received it.

We now consider the findings. For the 1970 enrollees at the senior colleges (table 4.0), the need for remediation is, as one would expect, inversely related to high school average. That is, as high school average increases, the need for remediation decreases. With the exception of level B students, the proportion taking remediation exceeds the proportion needing it. The opposite is true for level B students. Some colleges depart from these aggregate findings. Thus, at Brooklyn, the proportion of students needing remediation is greater than the proportion receiving it (although this may be a function of our suspicion that our remedial course file for Brooklyn is incomplete). Among level B students at Baruch, Lehman, and York, the proportion of students taking remediation is equal to--or greater than the proportion needing it.

Data for the 1971 freshmen are presented in table 4.1. Both the proportions needing remediation and the proportions taking it were greater in 1971 than in 1970. Again, we find that with the exception of level B students, more students took remediation than needed it. Individual colleges again depart from these trends.

Data for the community colleges are presented in tables 4.2 (1970 freshmen) and 4.3 (1971). For both classes the proportion needing remediation was greater than the proportion receiving it. This is exactly opposite to the findings for the senior colleges. The only consistent exception to this occurred at Queensborough, where the percentage taking remediation always exceeded the percentage defined as needing it. Moreover, while the proportion of students needing remediation in 1971 was greater than in 1970, the proportion taking it was smaller.

The preceding analyses must be interpreted with caution. While our data suggest that the delivery of remediation exceeds the need for it at the senior colleges, this does not mean that resources are being spent where they are not needed. Criteria for placement of students into remedial courses at many of the senior colleges may well have been more stringent than those defining "need" in this study.

Table 4.0
Need for Remediation and Delivery of Remediation:
Senior Colleges (1970 Freshmen)

Level

	B		A.1		A.2		Regular	
College	Need Rem.	Take Rem.	Need Rem.	Take Rem.	Need Rem.	Take Rem.	Need Rem.	Take Rem.
Baruch	77%	88%	42%	79%	29%	55%	11%	46%
Brooklyn	79	23	53	12	26	8	7	-
City College	80	40	53	62	36	56	8	26
Hunter	91	66	64	57	41	48	15	21
Lehman	77	82	51	58	26	28	11	11
Queens	80	67	64	78	27	65	7	50
York	83	86	46	74	25	56	42	44
Total	80%	69%	53%	58%	31%	42%	9%	24%

Table 4.1
Need for Remediation and Delivery of Remediation: Senior Colleges (1971 Freshmen)

Level

	B		A.1		A.2		Regular	
College	Need Rem.	Take Rem.	Need Rem.	Take Rem.	Need Rem.	Take Rem.	Need Rem.	Take Rem.
Baruch	82%	92%	54%	78%	25%	67%	15%	52%
Brooklyn	-*	20	79	27	51	8	11	-
City College	97	99	73	90	44	85	18	62
Hunter	-*	82	76	59	47	38	20	17
Lehman	76	92	61	65	39	44	36	17
Queens	66	13	79	33	32	54	8	34
York	71	100	49	81	26	67	19	52
Total	87%	70%	66%	75%	39%	55%	14%	26%

* N = less than 5

Table 4.2
Need for Remediation and Delivery of Remediation: Community Colleges (1970 Freshmen)

Level

	B		A		Reg 1		Reg 2	
College	Need Rem.	Take Rem.	Need Rem.	Take Rem.	Need Rem.	Take Rem.	Need Rem.	Take Rem.
Kingsborough	77%	51%	57%	52%	39%	33%	20%	35%
Manhattan	80	-	73	-	65	-	51	-
NYCCC	85	47	76	38	64	27	51	23
Queensborough	64	75	48	62	32	46	21	39
Staten Island	73	55	54	45	35	32	20	17
Total	75%	52%	58%	46%	43%	32%	31%	25%

Table 4.3
Need for Remediation and Delivery of Remediation: Community Colleges (1971 Freshmen)

Level

	B		A		Reg 1		Reg 2	
College	Need Rem.	Take Rem.	Need Rem.	Take Rem.	Need Rem.	Take Rem.	Need Rem.	Take Rem.
Kingsborough	81%	45%	64%	41%	53%	33%	40%	26%
La Guardia	64	100	57	100	58	100	39	100
Manhattan	88	-	71	-	62	-	60	-
NYCCC	85	39	78	32	69	27	45	18
Queensborough	71	79	55	56	40	42	25	31
Staten Island	80	45	61	27	47	25	58	12
Total	79%	47%	63%	38%	49%	32%	34%	21%

FRESHMAN YEAR ACADEMIC PERFORMANCE IN RELATION TO COMPENSATORY EXPERIENCE: SENIOR COLLEGES

This section considers the compensatory experience of the 1970 and 1971 senior college freshmen. It assesses the relation of such experience to academic performance outcomes. In addition, we can discern any changes which may have occurred in these relationships. That is, we may consider this question: Are relationships between compensatory experience and academic performance different for the 1970 and 1971 cohorts? We believe that over this period changes occurred in the structure of compensatory programs. If this is the case, experience in these programs may have had different academic outcomes for the two freshman classes.

Before proceeding, one caveat should be noted: in conducting these one year analyses, there is an implicit assumption that the effect of a compensatory effort will be visible *during* the time it is occurring. This assumption may well be unrealistic. It may be that the effects of compensatory courses do not show up until they have been completed. Therefore, the most appropriate assessment model may be to consider the relation between compensatory experience in the freshman year and academic performance in the second year and beyond (*after* the experience has had time to take effect). This latter model has been applied, and the data are presented in a subsequent section.

Assessment of Remedial Course Work

We consider the relationship of remediation over the freshman year and two academic performance criteria : grade point average and credit ratio. In order to interpret the findings, it is first necessary to look at the data for OAT scores.[2] These are presented in table 4.4. For the senior colleges as a group, the data show that among the level B students who enrolled in 1970, mean differences in OAT scores are very small. In effect, OAT reading scores are unrelated to remedial experience. For all other levels of high school average, 1970 freshmen who did not take remediation exhibited higher OAT scores than those who did take remedial courses. Among the 1971 freshmen, non-remedial students always showed higher OAT scores than remedial students. In general, students who took remediation in both terms of their freshman year were the group having the lowest OAT scores of any category.

The findings for the senior colleges as a group seem to hold quite consistently among individual colleges. However, at some schools there are very few cases in certain categories. In these instances, apparently large differences should not be taken seriously, since they are very unstable.

Before considering the results, we reiterate the interpretive guidelines. If remedial students have, on the average, lower OAT scores than non-remedial students, the benefit of remediation is suggested, if such students do as well, or better than their non-remedial counterparts.

Table 4.4

Comparison of 1970 and 1971 Freshmen: OAT Reading Scores in Relation to First Year Remediation (Senior Colleges)

Level B

College		No Rem.		Rem. Fall Only		Rem. Spring Only		Rem. Both Terms	
		1970	1971	1970	1971	1970	1971	1970	1971
Baruch	$\overline{X}$	29.7	38.0	32.4	39.7	30.5	0	31.3	28.0
	N	(7)	(2)	(24)	(7)	(2)	(0)	(35)	(24)
Brooklyn	$\overline{X}$	31.2	28.8	31.8	15.0	0	28.0	21.5	0
	N	(13)	(4)	(4)	(1)	(0)	(1)	(2)	(0)
City College	$\overline{X}$	29.5	0	26.9	27.8	29.0	0	32.4	26.9
	N	(18)	(0)	(7)	(16)	(10)	(0)	(13)	(68)
Hunter	$\overline{X}$	28.1	0	27.3	22.0	0	0	35.0	17.5
	N	(14)	(0)	(26)	(1)	(0)	(0)	(2)	(2)
Lehman	$\overline{X}$	38.9	53.0	34.2	34.8	34.3	21.0	27.4	27.4
	N	(11)	(1)	(38)	(20)	(3)	(1)	(22)	(26)
Queens	$\overline{X}$	0	45.0	39.3	29.0	56.0	0	0	30.0
	N	(0)	(3)	(4)	(1)	(1)	(0)	(0)	(2)
York		32.5	0	33.8	32.0	0	0	31.2	37.4
		(4)	(0)	(16)	(2)	(0)	(0)	(25)	(5)
TOTAL		31.3	37.9	31.9	32.3	31.9	24.5	30.4	27.5
		(67)	(10)	(119)	(48)	(16)	(2)	(99)	(127)

Table 4.4 (Continued)

Comparison of 1970 and 1971 Freshmen: OAT Reading Scores in Relation to First Year Remediation (Senior Colleges)

Level A.1

College	No Rem.		Rem. Fall Only		Rem. Spring Only		Rem. Both Terms	
	1970	1971	1970	1971	1970	1971	1970	1971
Baruch	40.6 (36)	39.0 (28)	36.8 (50)	38.5 (43)	48.5 (2)	34.6 (8)	35.1 (91)	33.7 (12)
Brooklyn	38.7 (132)	31.7 (15)	34.5 (18)	33.3 (4)	30.3 (4)	21.0 (1)	37.0 (3)	23.7 (3)
City College	41.7 (60)	43.0 (18)	35.6 (59)	33.3 (100)	36.9 (23)	42.4 (22)	34.3 (84)	32.4 (313)
Hunter	38.9 (95)	38.5 (54)	33.4 (113)	33.3 (59)	34.5 (4)	30.0 (1)	29.6 (16)	24.8 (27)
Lehman	42.1 (90)	40.1 (69)	36.2 (97)	36.6 (120)	46.5 (2)	31.9 (15)	29.8 (28)	29.7 (49)
Queens	42.4 (11)	39.0 (4)	36.5 (26)	33.3 (8)	23.0 (1)	0 (0)	28.9 (12)	30.0 (2)
York	32.5 (4)	42.8 (21)	33.8 (16)	46.7 (30)	0 (0)	38.5 (4)	31.2 (25)	35.9 (77)
TOTAL	40.4 (453)	39.4 (209)	35.5 (402)	35.8 (364)	36.8 (38)	37.1 (51)	34.2 (294)	32.5 (583)

Table 4.4 (Continued)

Comparison of 1970 and 1971 Freshmen:
OAT Reading Scores in Relation to First Year Remediation
(Senior Colleges)

Level A.2

	No Rem.		Rem. Fall Only		Rem. Spring Only		Rem. Both Terms	
College	1970	1971	1970	1971	1970	1971	1970	1971
Baruch	44.8 (174)	45.1 (106)	38.3 (78)	39.2 (102)	39.9 (9)	39.6 (9)	38.1 (141)	38.3 (179)
Brooklyn	41.5 (403)	37.7 (133)	40.6 (34)	30.6 (5)	36.0 (8)	26.3 (4)	19.5 (2)	28.3 (3)
City College	45.3 (186)	49.3 (65)	36.6 (119)	38.8 (180)	36.2 (29)	45.9 (38)	35.6 (175)	36.2 (406)
Hunter	42.0 (257)	42.0 (313)	37.7 (221)	34.9 (49)	31.1 (8)	0 (0)	29.3 (12)	28.5 (38)
Lehman	46.0 (399)	44.5 (258)	37.5 (128)	39.2 169	39.6 (15)	34.8 (11)	33.6 (34)	30.9 (59)
Queens	46.2 (126)	44.4 (85)	40.2 (204)	39.2 (92)	40.6 (11)	45.5 (2)	36.8 (53)	40.7 (10)
York	46.9 (116)	46.6 (73)	40.8 (85)	41.9 66	41.3 (6)	42.0 5	39.1 (76)	39.9 102
TOTAL	44.2 (1661)	43.4 (1033)	38.6 (869)	38.4 (763)	37.6 (86)	41.9 (69)	36.6 (493)	36.4 (797)

Table 4.4 (Continued)

Comparison of 1970 and 1971 Freshmen: OAT Reading Scores in Relation to First Year Remediation (Senior Colleges)

Regular

	No Rem.		Rem. Fall Only		Rem. Spring Only		Rem. Both Terms	
College	1970	1971	1970	1971	1970	1971	1970	1971
Baruch	47.3 (191)	48.6 (183)	42.7 (67)	41.8 (74)	41.0 (3)	43.1 (12)	39.9 (98)	41.0 (145)
Brooklyn	48.4 (2409)	46.2 (1731)	47.8 (8)	46.3 (3)	42.6 (11)	46.6 (8)	31.0 (1)	33.0 (4)
City College	50.4 (865)	51.4 (256)	40.0 (155)	45.4 (239)	43.3 (35)	49.4 (152)	37.3 (165)	38.4 (406)
Hunter	47.9 (1123)	47.4 (999)	42.7 (282)	36.9 (169)	33.5 (8)	54.0 (1)	29.9 (11)	32.2 (31)
Lehman	48.4 (623)	47.8 (612)	40.3 (65)	41.7 (105)	41.4 (11)	43.5 (8)	34.2 (5)	32.6 (17)
Queens	50.9 (1073)	49.3 (1310)	46.7 (1032)	46.6 (666)	48.8 (60)	50.6 (46)	43.1 (113)	45.0 (26)
York	47.1 (42)	50.0 (92)	45.0 (24)	43.9 (45)	47.0 (2)	48.0 (3)	42.8 (16)	41.4 (50)
TOTAL	49.0 (6326)	47.8 (5183)	44.9 (1633)	44.3 (1301)	45.0 (130)	49.0 (230)	39.5 (409)	39.0 (679)

1. Remediation in relation to GPA and Credit Ratio. Data for GPA are presented in table 4.5. For the senior colleges as a group, there are no apparent effects of remediation among level B students. That is, those who took no remediation in their freshmen year were more likely to earn a C average than those who had remedial experience. Among the individual colleges, interpretation is difficult due to the rather small number of cases involved.

Among level A.1 students, there is at least a suggestion of remedial effects for both 1970 and 1971 cohorts. The non-remedial group were more likely to earn a C average, but the differences between the non-remedials and the remedials are small. Thus, 48% of those who took no remedial work in 1970 earned a C average, compared with 44% who took remedial work in the Fall only. Among individual colleges, we note the apparent impact of remediation for the second open admissions class. Thus, at Baruch 40% of the 1971 group who took no remediation attained a full year GPA of 2.00 or better. This was true for 38% of those who took remedial work in the Fall (but their OAT scores were similar to the non-remedial group) and 36% of those who took it for both terms. These differences are very small, and we conclude that the remedial students who took this work both terms did as well as those with no remediation. The same finding is exhibited at Hunter College. Thus, at Baruch, City College, and Hunter there is some evidence that remediation had positive effects. Furthermore, these effects are noted for the second year of open admissions, suggesting progress in program development.

TABLE 4.5

Comparison of 1970 and 1971 Freshmen: Relation of One Year Cumulative Grade Point Average (% with 2.00 or Better) and First Year Remediation (Senior Colleges)

LEVEL B

COLLEGE	No Remediation				Remediation Fall Only				Remediation Spring Only				Remediation Both Terms			
	70	N	71	N	70	N	71	N	70	N	71	N	70	N	71	N
Baruch	-	4	-	2	26%	19	-	4	-	2	-	1	28%	46	18%	34
Brooklyn	67	27	29	7	-	5	-	-	-	2	-	4	-	3	-	1
City College	28	18	-	-	-	-	33	6	47	15	-	1	17	18	34	79
Hunter	61	13	-	2	30	20	-	4	-	-	-	-	-	3	20	5
Lehman	15	13	-	2	12	40	17	24	-	4	-	2	17	29	8	36
Queens	-	1	60	48	-	2	-	3	-	1	67	6	-	-	33	6
York	71	7	-	-	40	20	-	4	-	2	-	-	40	35	56	9
TOTAL	49	83	56	61	24	106	24	45	38	26	29	14	28	134	26	170

TABLE 4.5 (Continued)

Comparison of 1970 and 1971 Freshmen:
Relation of One Year Cumulative Grade Point Average (% with 2.00 or Better)
and First Year Remediation
(Senior Colleges)

LEVEL A.1

COLLEGE	No Remediation				Remediation Fall Only				Remediation Spring Only				Remediation Both Terms			
	70	N	71	N	70	N	71	N	70	N	71	N	70	N	71	N
Baruch	42%	38	40%	35	29%	45	38%	37	-	4	8%	13	33%	111	36%	141
Brooklyn	47	156	44	18	21	19	-	4	37	8	-	2	-	5	-	3
City College	50	54	65	20	37	48	62	45	36	28	60	25	34	95	50	396
Hunter	63	94	53	78	52	106	51	82	-	4	-	2	53	19	43	42
Lehman	29	107	40	93	34	100	29	131	-	4	31	16	16	38	26	76
Queens	100	8	71	14	100	25	89	9	-	-	-	-	91	11	-	2
York	58	38	61	26	54	37	68	28	-	2	-	5	46	78	39	101
TOTAL	48	495	49	284	44	380	45	336	40	50	38	63	37	357	43	761

We now consider the findings for level A.2 students. Among the 1970 enrollees, those who took remediation in the fall only were just as likely to earn a C average as those who took none at all. For the 1971 freshmen, remedial courses taken in the fall only or in the spring only seemed to be effective,in that these groups were about as likely to earn a C average as those who had no remediation in their freshman year. In short, more categories of remedial students did as well as non-remedial students in the second year of open admissions than in the first year. Among individual colleges progress in the second year is noteworthy at Baruch, City College, and Hunter. At Brooklyn, Queens and York positive effects of remediation are suggested for both freshman classes.

Among regular students, those who took remediation in the fall only perform as well or better than those who did not take remediation. Other remedial categories perform less well than their non-remedial counterparts. Overall there are no differences from 1970 to 1971.

We now consider freshman year remediation in relation to credit ratio. Does remedial experience increase the probabilities that a student will earn at least 75% of the credits for which he registers? The data are presented in table 4.6.

For level B students, those in the 1970 cohort who took remediation did as well or better than the non-remedial group. For example, 58% who took remediation both terms earned a credit ratio of .75 or better, compared with 49% for those taking no remediation at all. Among the 1971 group, the impact of remediation seems less consistent. Those who took remediation in the fall only did almost as well as their non-remedial counterparts, but

TABLE 4.5 (continued)

Comparison of 1970 and 1971 Freshmen:
Relation of One Year Cumulative Grade Point Average (% with 2.00 or Better)
and First Year Remediation
(Senior Colleges)

LEVEL A.2

	No Remediation				Remediation Fall Only				Remediation Spring Only				Remediation Both Terms			
COLLEGE	70	N	71	N	70	N	71	N	70	N	71	N	70	N	71	N
Baruch	61	178	65%	134	41	70	47%	88	44	9	53%	15	51	160	63%	218
Brooklyn	67	479	61	230	63	43	58	12	83	12	78	9	-	2	50	10
City College	60	203	70	57	48	93	68	115	47	38	76	50	41	210	54	493
Hunter	78	259	71	364	72	226	70	169	22	9	-	2	60	15	62	58
Lehman	61	425	63	319	42	138	48	179	54	22	33	18	19	41	32	81
Queens	98	126	87	82	100	208	85	87	93	14	-	4	100	60	80	10
York	64	133	67	91	70	90	70	56	67	6	-	5	59	91	72	134
TOTAL	68	1803	67	1277	68	868	63	706	57	110	64	103	52	579	58	1004

TABLE 4.5 (continued)

Comparison of 1970 and 1971 Freshmen:
Relation of One Year Cumulative Grade Point Average
(% with 2.00 or Better) and First Year Remediation
(Senior Colleges)

REGULAR

COLLEGE	No Remediation				Remediation Fall Only				Remediation Spring Only				Remediation Both Terms			
	70	N	71	N	70	N	71	N	70	N	71	N	70	N	71	N
Baruch	77	205	82%	210	77%	61	76%	72	-	4	74%	19	77	111	79%	180
Brooklyn	84	2679	89	2272	75	8	-	4	77	13	93	15	-	2	-	4
City College	84	943	88	245	71	150	82	217	58	45	84	166	61	200	70	466
Hunter	90	1177	88	1250	85	302	85	199	56	9	-	3	50	14	54	46
Lehman	81	680	79	713	76	81	69	130	44	16	54	13	50	8	32	22
Queens	100	1116	97	1318	99	1073	95	684	99	69	96	56	99	129	93	31
York	74	53	93	100	84	25	89	56	-	2	-	4	62	21	69	62
TOTAL	87	6853	89	6108	92	1700	88	1362	75	158	84	276	75	485	71	811

TABLE 4.5(continued)

Comparison of 1970 and 1971 Freshmen:
Relation of One Year Cumulative Grade Point Average
(% with 2.00 or Better) and First Year Remediation
(Senior Colleges)

COLLEGE	NO HIGH SCHOOL AVERAGE															
	No Remediation				Remediation Fall Only				Remediation Spring Only				Remediation Both Terms			
	70	N	71	N	70	N	71	N	70	N	71	N	70	N	71	N
Baruch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Brooklyn	69	133	-	1	-	5	-	-	-	4	-	-	-	2	-	-
City College	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hunter	89	46	-	-	71	21	-	-	-	-	-	-	-	1	-	-
Lehman	56	41	-	-	32	19	-	-	-	3	-	-	9	11	-	-
Medgar Evers																
Queens	100	11	-	1	93	15	56	16	-	3	-	2	-	5	29	7
York	43	7	-	-	62	8	-	-	-	1	-	-	60	10	-	-
TOTAL	70	241	-	2	62	68	56	16	54	11	-	2	45	29	29	7

those who took remediation both terms did less well. The data for individual colleges are thin due to the small numbers involved, and we make no interpretations at the individual college level.

Among level A.1 students, those with remedial experience do as well as those with none. These remedial effects seem more consistent for the 1971 group than for the 1970 group. Among individual colleges, positive effects are noted at City College, Hunter, Lehman, and York.

For level A.2 students remedial experience seemed to increase the chances of attaining a .75 credit ratio. This was true for both classes. However, the effect seems stronger for the second open admissions class, since all three remedial groups approximate the performance of the non-remedial group. Among individual colleges performance of the remedials was stronger in 1971 than in 1970 at Baruch, Lehman, and York.

For regular students there are also apparent effects of remediation. However, these seem to occur primarily for those students who took remediation in the fall only. The other remedial categories did less well than their peers who did not take remediation.

In summary, the data suggest that remedial course-work had some positive effects on students' academic performance. The data also suggest that these effects occurred more often in the second year of open admissions.

TABLE 4.6

Comparison of 1970 and 1971 Freshmen:
Relation of One Year Cumulative Credit Ratio
(% with .75 or Better) and First Year Remediation
(Senior Colleges)

	LEVEL B															
COLLEGE	No Remediation				Remediation Fall Only				Remediation Spring Only				Remediation Both Terms			
	70	N	71	N	70	N	71	N	70	N	71	N	70	N	71	N
Baruch	-	4	-	2	32%	19	-	4	-	2	-	1	59%	44	45%	31
Brooklyn	52	27	29	7	-	5	-	-	-	2	-	-	-	3	-	1
City College	50	16	-	-	-	1	83	6	69	13	-	1	47	17	65	80
Hunter	33	12	-	2	37	19	-	3	-	-	-	-	-	3	-	5
Lehman	23	13	-	2	46	39	61	23	-	4	-	2	44	25	29	31
Queens	-	1	71	48	-	2	-	5	-	1	67	6	-	-	33	6
York	100	7	-	-	90	20	-	4	-	2	-	-	80	35	100	9
TOTAL	49	80	64	61	49	105	60	45	50	24	43	14	58	127	54	163

TABLE 4.6 (continued)

Comparison of 1970 and 1971 Freshmen:
Relation of One Year Cumulative Credit Ratio
(% with .75 or Better) and First Year Remediation
(Senior Colleges)

LEVEL A.1

COLLEGE	No Remediation				Remediation Fall Only				Remediation Spring Only				Remediation Both Terms			
	70	N	71	N	70	N	71	N	70	N	71	N	70	N	71	N
Baruch	68%	38	70%	33	60%	43	73%	33	-	4	64%	11	64%	110	66%	137
Brooklyn	66	155	61	18	37	19	-	4	57	7	-	2	-	4	-	3
City College	72	53	74	19	69	45	74	43	39	28	76	25	63	98	66	394
Hunter	59	92	62	76	49	103	59	80	-	4	-	2	44	18	29	41
Lehman	63	104	58	91	66	100	61	130	-	4	62	16	38	37	49	74
Queens	87	8	64	14	84	25	89	9	-	-	-	-	58	12	-	2
York	84	38	96	26	92	37	93	28	-	2	-	5	91	78	93	102
TOTAL	67	488	66	277	63	372	67	327	51	49	72	61	65	357	66	753

TABLE 4.6 (continued)

Comparison of 1970 and 1971 Freshmen:
Relation of One Year Cumulative Credit Ratio
(% with .75 or Better) and First Year Remediation
(Senior Colleges)

LEVEL A.2

COLLEGE	No Remediation				Remediation Fall Only				Remediation Spring Only				Remediation Both Terms			
	70	N	71	N	70	N	71	N	70	N	71	N	70	N	71	N
Baruch	81%	172	80	131	57%	67	75%	84	75%	8	86%	14	78%	157	86%	212
Brooklyn	79	474	75	227	77	43	83	12	83	12	50	8	-	2	50	10
City College	78	197	86	56	74	93	77	112	74	38	82	49	70	210	72	490
Hunter	78	256	79	353	76	226	78	164	25	8	-	2	46	13	50	56
Lehman	83	424	78	314	72	136	76	176	75	20	56	18	36	39	56	78
Queens	92	127	82	82	91	209	80	87	69	13	-	4	81	63	64	11
York	92	133	98	90	90	90	96	56	83	6	-	5	91	91	100	134
TOTAL	82	1783	80	1253	79	864	79	691	71	105	75	100	74	575	76	991

TABLE 4.6 (continued)

Comparison of 1970 and 1971 Freshmen:
Relation of One Year Cumulative Credit Ratio
(% with .75 or Better) and First Year Remediation
(Senior Colleges)

	REGULAR															
	No Remediation				Remediation Fall Only				Remediation Spring Only				Remediation Both Terms			
COLLEGE	70	N	71	N	70	N	71	N	70	N	71	N	70	N	71	N
Baruch	91%	201	86%	205	93%	60	84%	70	-	4	74%	19	92%	111	91%	178
Brooklyn	92	2670	94	2264	87	8	-	4	77	13	93	15	-	2	-	4
City College	91	942	90	244	87	149	88	217	77	44	87	165	80	199	78	465
Hunter	91	1172	91	1237	85	300	92	196	62	8	-	2	46	13	60	45
Lehman	92	678	91	704	91	80	85	130	62	16	61	13	75	8	67	21
Queens	97	1114	95	1316	97	1072	95	684	94	68	96	54	89	129	91	32
York	91	53	100	100	100	25	100	56	-	2	-	4	95	21	98	62
TOTAL	92	6830	93	6070	94	1694	92	1357	83	155	87	272	85	483	82	807

TABLE 4.6(continued)

Comparison of 1970 and 1971 Freshmen:
Relation of One Year Cumulative Credit Ratio
(% with .75 or Better) and First Year Remediation
(Senior Colleges)

NO HIGH SCHOOL AVERAGE

COLLEGE	No Remediation				Remediation Fall Only				Remediation Spring Only				Remediation Both Terms			
	70	N	71	N	70	N	71	N	70	N	71	N	70	N	71	N
Baruch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Brooklyn	71	127	-	1	-	4	-	-	-	4	-	-	-	2	-	-
City College	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hunter	87	45	-	-	82	22	-	-	-	-	-	-	-	1	-	-
Lehman	79	39	-	-	47	19	-	-	-	3	-	-	70	10	-	-
Queens	100	11	-	1	87	15	39	18	-	2	-	2	-	5	33	9
York	100	7	-	-	100	8	-	-	-	1	-	-	100	10	-	-
TOTAL	77	232	-	2	75	68	39	18	60	10	-	2	82	28	33	9

2. Credit Load and Academic Performance. One aspect of the compensatory policy under open admissions has been to limit the credit load taken by students having deficits in academic skills. As table 4.7 shows, students who attempt fewer credits over the course of their freshman year also tend to have lower OAT reading scores. Of course, we have no direct evidence that students who attempted fewer credits did so as a result of college policy. In some cases these may have been decisions made by individual students, rather than results of explicit placement criteria applied to the student by college staff. Moreover, the data to be presented are not independent of remediation experience. That is, students who take remediation will, in most cases, also be attempting fewer credits, since remedial courses typically carry either no credit or fewer credits than non-remedial courses. Nevertheless, the correlation between remedial course-work and restricted credit load is not perfect. Many students attempt less than normal credit loads while not taking remediation, and some students who take remediation are, nevertheless, taking a normal credit load.

Table 4.8 presents the data on freshman year GPA in relation to credits attempted. For level B students, we note certain effects of credit load restriction. For the 1970 freshmen, those who attempted less than 16 credits over their first year were about as likely to achieve a 2.00 GPA as those who attempted 16-23.99 credits. However, neither group did as well as those who attempted 24 or more credits. For the 1971 group, those on restricted credit

TABLE 4.7

Comparison of 1970 and 1971 Freshmen: OAT Reading Scores in Relation To Credits Attempted in First Year (Senior Colleges)

Level B

Credits Attempted

COLLEGE	24 or more		16-23.99		less than 16	
	1970	1971	1970	1971	1970	1971
BARUCH	35.9 (17)	41.7 (6)	31.5 (24)	29.5 (12)	27.9 (25)	25.8 (12)
BROOKLYN	32.1 (14)	32.3 (3)	25.4 (5)	22.0 (1)	0	27.0 (1)
CITY COLLEGE	30.8 (13)	41.4 (7)	29.3 (15)	28.6 (21)	29.4 (15)	25.0 (51)
HUNTER	29.4 (13)	20.0 (1)	28.9 (14)	22.0 (1)	24.3 (9)	15.0 (1)
LEHMAN	34.7 (46)	34.4 (17)	29.7 (19)	31.9 (16)	30.3 (9)	25.8 (15)
QUEENS	28.0 (1)	43.5 (2)	56.0 (1)	39.0 (1)	40.0 (1)	21.0 (1)
YORK	33.1 (18)	31.0 (1)	31.0 (17)	39.3 (3)	32.6 (10)	34.0 (3)
TOTAL	33.3 (122)	36.7 (37)	30.3 (95)	30.3 (55)	28.9 (69)	25.4 (84)

Level A.1

Credits Attempted

COLLEGE	24 or more		16-23.99		less than 16	
	1970	1971	1970	1971	1970	1971
BARUCH	40.0 (67)	37.4 (71)	34.6 (79)	34.5 (73)	36.0 (30)	34.0 (44)
BROOKLYN	37.6 (121)	32.5 (11)	36.5 (22)	29.9 (8)	44.5 (11)	25.7 (3)
CITY COLLEGE	37.5 (118)	38.4 (119)	36.2 (54)	33.0 (175)	36.6 (44)	30.0 (146)
HUNTER	35.4 (89)	34.0 (60)	34.7 (65)	33.6 (51)	37.0 (60)	34.3 (23)
LEHMAN	38.8 (160)	38.8 (140)	33.1 (18)	32.7 (61)	36.8 (34)	31.6 (41)
QUEENS	35.8 (12)	37.3 (4)	34.8 (12)	32.8 (6)	36.7 (24)	31.0 (2)
YORK	39.8 (78)	39.7 (46)	37.3 (30)	38.9 (52)	36.5 (22)	36.6 (33)
TOTAL	38.1 (645)	37.8 (451)	35.3 (280)	34.0 (426)	37.0 (225)	31.9 (292)

Level A.2

Credits Attempted

COLLEGE	24 or more		16-23.99		less than 16	
	1970	1971	1970	1971	1970	1971
BARUCH	43.0 (223)	43.1 (185)	39.5 (114)	38.1 (127)	37.8 (61)	36.6 (70)
BROOKLYN	41.5 (380)	37.0 (111)	39.4 (37)	34.1 (15)	40.6 (26)	36.0 (15)
CITY COLLEGE	40.6 (303)	41.9 (295)	37.5 (118)	36.6 (218)	38.4 (73)	35.8 (162)
HUNTER	40.3 (264)	39.9 (263)	40.3 (108)	36.9 (126)	37.6 (100)	39.8 (80)
LEHMAN	43.6 (472)	43.2 (330)	36.0 (18)	33.9 (73)	42.6 (71)	37.9 (72)
QUEENS	42.9 (191)	41.8 (93)	40.3 (120)	43.0 (60)	40.4 (71)	38.9 (33)
YORK	43.3 (201)	44.4 (131)	40.4 (49)	40.0 (69)	43.9 (30)	41.1 (40)
TOTAL	42.2 (2034)	41.8 (1408)	39.4 (564)	37.5 (688)	39.6 (432)	37.6 (472)

Regular

Credits Attempted

COLLEGE	24 or more		16-23.99		less than 16	
	1970	1971	1970	1971	1970	1971
BARUCH	45.6 (259)	46.7 (266)	40.2 (67)	39.7 (88)	43.1 (30)	41.8 (47)
BROOKLYN	48.5 (2251)	46.4 (1628)	47.3 (70)	40.6 (38)	46.3 (95)	44.6 (62)
CITY COLLEGE	47.8 (960)	46.8 (662)	43.9 (145)	40.9 (241)	45.9 (96)	41.4 (132)
HUNTER	47.3 (1011)	46.2 (899)	45.0 (178)	44.3 (126)	45.5 (179)	43.5 (117)
LEHMAN	47.5 (628)	47.0 (642)	48.7 (20)	42.3 (36)	45.7 (42)	44.7 (51)
QUEENS	48.9 (1686)	48.7 (1611)	47.1 (386)	47.6 (257)	47.7 (177)	46.7 (147)
YORK	46.2 (66)	47.5 (137)	45.6 (11)	42.9 (29)	41.4 (7)	44.1 (21)
TOTAL	48.1 (6861)	47.2 (5845)	45.6 (877)	43.5 (815)	46.2 (626)	43.9 (577)

TABLE 4.8

Comparison of 1970 and 1971 Freshmen:
One Year Cumulative Grade Point Average in Relation to Credits Attempted in First Year
(Percent with 2.00 or Better GPA):
Senior Colleges

	LEVEL B											
	Less than 16				16-23.99				24 or More			
COLLEGE	70	N	71	N	70	N	71	N	70	N	71	N
Baruch	17%	23	19%	16	25%	28	10%	19	48%	21	- %	6
Brooklyn	-	-	-	-	42	12	-	4	56	25	12	8
City College	33	18	33	52	30	20	28	25	21	14	50	10
Hunter	-	5	-	5	18	17	-	4	73	15	-	2
Lehman	-	4	9	21	14	21	10	20	16	61	13	23
Queens	-	2	67	24	-	1	50	38	-	1	-	3
York	56	9	-	6	28	29	-	5	54	26	-	2
TOTAL	29	61	33	124	26	128	30	115	39	163	33	54

TABLE 4.8

Comparison of 1970 and 1971 Freshmen:
One Year Cumulative Grade Point Average in Relation to Credits Attempted in First Year
(Percent with 2.00 or Better GPA):
Senior Colleges

	LEVEL A.1											
	Less than 16				16-23.99				24 or More			
COLLEGE	70	N	71	N	70	N	71	N	70	N	71	N
Baruch	32%	25	23%	43	28%	92	32%	101	42%	81	46%	82
Brooklyn	-	6	-	1	10	30	33	9	51	152	47	17
City College	40	25	37	125	32	63	48	225	40	141	68	146
Hunter	48	44	26	38	40	75	45	89	70	105	67	78
Lehman	20	15	13	38	16	25	28	85	31	211	36	197
Queens	85	20	62	8	100	13	83	12	100	13	-	5
York	40	10	32	31	47	45	40	70	55	100	62	60
TOTAL	44	145	30	284	34	343	42	591	47	803	53	585

loads (less than 24 credits) were just as likely to earn a C average as those who attempted 24 or more credits. Thus, while restricted load seems to have some positive effect in both years, these effects appear stronger for the 1971 cohort. For individual colleges, in most cases the number of students is very small, and we do not attempt interpretations for this level.

Among 1970 enrollees in the level A.1 category, those who registered for less than 16 credits were more likely to earn a C average than those registering for 16-23.99 credits. They are also about as likely to attain a C average as those who attempted 24 or more credits. For the 1971 group, no such effect is apparent. The restricted credit load policies seem to have worked best at City College in 1970 (although not in 1971). The apparent indications of some success at Baruch, Hunter, and Lehman are vitiated by the fact that the comparison groups are similar in OAT scores.

For the senior colleges as a whole, restricted credit load does not appear to have had any beneficial effect for level A. 2 students of either the 1970 or 1971 cohorts. However, there are a few campuses where the data move against the general direction of the findings. Thus, at Brooklyn students who attempted less than 16 credits were more likely to earn a C average than those who attempted 16-23.99 credits. Other apparent effects cannot be interpreted as a benefit of restricted credit load, since the comparison groups have similar OAT scores.

TABLE 4.8

Comparison of 1970 and 1971 Freshmen:
One Year Cumulative Grade Point Average in Relation to Credits Attempted in First Year
(Percent with 2.00 or Better GPA):
Senior Colleges

	LEVEL A.2											
	Less than 16				16-23.99				24 or More			
COLLEGE	70	N	71	N	70	N	71	N	70	N	71	N
Baruch	31%	29	36%	61	38%	134	56%	171	64%	254	70%	223
Brooklyn	53	15	46	13	47	47	45	38	69	474	65	210
City College	27	40	48	108	34	129	52	261	57	377	68	348
Hunter	49	59	26	84	67	136	55	179	81	314	88	331
Lehman	32	19	39	44	20	25	31	99	56	583	59	454
Queens	83	54	64	11	99	141	77	70	99	220	90	104
York	60	10	34	29	53	60	67	90	67	250	78	167
TOTAL	50	226	39	350	57	672	54	908	68	2472	72	1837

TABLE 4.8

Comparison of 1970 and 1971 Freshmen:
One Year Cumulative Grade Point Average in Relation to Credits Attempted in First Year
(Percent with 2.00 or Better GPA):
Senior Colleges

	REGULAR											
	Less than 16				16-23.99				24 or More			
COLLEGE	70	N	71	N	70	N	71	N	70	N	71	N
Baruch	50%	12	56%	39	63%	79	62%	115	81	290	89%	327
Brooklyn	44	32	54	26	76	88	81	63	85	2582	90	2206
City College	49	49	51	99	58	178	68	278	83	1114	86	722
Hunter	61	110	51	120	74	211	71	203	94	1182	93	1175
Lehman	54	11	62	29	56	16	34	44	80	758	79	805
Queens	89	99	74	50	99	427	85	296	100	1864	99	1748
York	-	1	31	16	69	13	79	39	74	87	90	167
TOTAL	66	314	55	379	81	1012	73	1038	89	7877	91	7150

TABLE 4.8

Comparison of 1970 and 1971 Freshmen:
One Year Cumulative Grade Point Average in Relation to Credits Attempted in First Year
(Percent with 2.00 or Better GPA):
Senior Colleges

	NO HIGH SCHOOL AVERAGE											
	Less than 16				16-23.99				24 or More			
COLLEGE	70	N	71	N	70	N	71	N	70	N	71	N
Baruch	-	0	-	0	-	0	-	0	-	0	-	0
Brooklyn	-	3	-	0	67	12	-	1	67	129	-	0
City College	-	3	-	0	-	0	-	0	-	0	-	0
Hunter	50	8	-	0	62	16	-	0	93	45	-	0
Lehman	-	1	-	0	12	8	-	0	44	66	-	0
Queens	67	9	7	15	-	7	64	14	100	19	-	3
York	-	1	-	0	-	7	-	0	67	18	-	0
TOTAL	52	25	7	15	58	50	60	15	68	277	-	3

For the senior colleges as a whole there is no discernible effect of credit load restriction for regular students. The more credits for which a student registered, the greater the probability that at least a C average was achieved. At Lehman in 1970 those who attempted less than 16 credits did as well as those who attempted 16-23.99 credits. However the number of students is rather small.

Table 4.9 presents data depicting the relationship between first year credits attempted and freshman year credit ratio. For the senior colleges considered as a group, restriction of credit load during the freshman year had only one discernible effect: Level B students who registered for 16-23.99 credits (in 1971) were about as likely to earn a .75 credit ratio as those who attempted 24 or more. For other levels, no effects were apparent. However, there are some colleges where this general finding does not hold.

For the 1971 level B freshmen at Baruch and Lehman, the probability that a student would earn 75% of credits attempted was enhanced among those students attempting less than 16 credits. That is,if we compare these students with those who attempted 16-23.99 credits, the former did as well or better. However,in no case do students on restricted credit loads approximate the performance of those attempting 24 or more credits.

Among level A.1 students, there are also a few examples which suggest some benefits of credit restrictions. At Hunter and Lehman, 1970 freshmen who attempted less than 16 credits were more likely to earn a .75 credit ratio than those who attempted 16-23.99 credits.

TABLE 4.9

Comparison of 1970 and 1971 Freshmen:
One Year Cumulative Credit Ratio in Relation to Credits Attempted in First Year
(Percent with Credit Ratio of .75 or Better):
Senior Colleges

	LEVEL B											
	Less than 16				16-23.99				24 or More			
COLLEGE	70	N	71	N	70	N	71	N	70	N	71	N
Baruch	22%	23	37%	16	54%	28	32%	19	76%	21	- %	6
Brooklyn	-	0	-	0	33	12	-	4	48	25	37	8
City College	39	18	58	52	45	20	76	25	64	14	80	10
Hunter	-	5	-	5	18	17	-	4	53	15	-	2
Lehman	-	4	29	21	19	21	30	20	46	61	48	23
Queens	-	2	58	24	-	1	68	38	-	1	-	3
York	67	9	-	6	72	29	-	5	100	26	-	2
TOTAL	33	61	51	124	44	128	56	115	61	163	59	54

TABLE 4.9

Comparison of 1970 and 1971 Freshmen:
One Year Cumulative Credit Ratio in Relation to Credits Attempted in First Year
(Percent with Credit Ratio of .75 or Better):
Senior Colleges

	LEVEL A.1											
	Less than 16				16-23.99				24 or More			
COLLEGE	70	N	71	N	70	N	71	N	70	N	71	N
Baruch	40%	25	44%	43	62%	92	61%	101	72%	81	77%	82
Brooklyn	-	6	-	1	27	30	67	9	69	152	71	17
City College	48	25	46	125	54	63	66	225	68	141	83	146
Hunter	34	44	24	38	29	75	48	89	74	105	72	78
Lehman	40	15	29	38	28	25	48	85	64	211	64	197
Queens	60	20	62	8	92	13	75	12	85	13	-	5
York	70	10	87	31	89	45	91	70	92	100	100	60
TOTAL	44	145	45	284	52	343	63	591	72	803	76	585

TABLE 4.9

Comparison of 1970 and 1971 Freshmen:
One Year Cumulative Credit Ratio in Relation to Credits Attempted in First Year
(Percent with Credit Ratio of .75 or Better):
Senior Colleges

	LEVEL A.2											
	Less than 16				16-23.99				24 or More			
COLLEGE	70	N	71	N	70	N	71	N	70	N	71	N
Baruch	41%	29	54%	61	60%	134	80%	171	83%	254	13%	223
Brooklyn	47	15	69	13	60	47	39	38	81	474	79	210
City College	40	40	55	108	56	129	69	261	82	377	83	348
Hunter	40	60	36	84	61	136	59	179	87	314	91	331
Lehman	53	19	57	44	36	25	53	99	79	583	78	454
Queens	67	54	54	11	87	141	67	70	95	220	90	104
York	80	10	97	29	85	60	98	90	93	250	99	167
TOTAL	50	227	54	350	66	672	69	908	84	2472	85	1837

TABLE 4.9

Comparison of 1970 and 1971 Freshmen:
One Year Cumulative Credit Ratio in Relation to Credits Attempted in First Year
(Percent with Credit Ratio of .75 or Better):
Senior Colleges

	REGULAR											
	Less than 16				16-23.99				24 or More			
COLLEGE	70	N	71	N	70	N	71	N	70	N	71	N
Baruch	58%	12	64%	39	80%	79	76%	115	95%	290	91%	327
Brooklyn	56	32	77	26	74	88	73	63	92	2582	94	2206
City College	57	49	51	99	71	178	78	278	92	1114	90	722
Hunter	53	110	59	120	72	211	70	203	95	1182	96	1175
Lehman	64	11	72	29	75	16	64	44	92	758	90	805
Queens	60	99	64	50	92	427	80	296	99	1864	98	1748
York	-	1	100	16	92	13	97	39	95	87	100	167
TOTAL	56	314	62	379	81	1012	77	1038	94	7877	95	7150

TABLE 4.9

Comparison of 1970 and 1971 Freshmen:
One Year Cumulative Credit Ratio in Relation to Credits Attempted in First Year
(Percent with Credit Ratio of .75 or Better):
Senior Colleges

	NO HIGH SCHOOL AVERAGE											
	Less than 16				16-23.99				24 or More			
COLLEGE	70	N	71	N	70	N	71	N	70	N	71	N
Baruch	-	0	-	0	-	0	-	0	-	0	-	0
Brooklyn	-	3	-	0	25	12	-	1	70	129	-	0
City College	-	3	-	0	-	0	-	0	-	0	-	0
Hunter	50	8	-	0	50	16	-	0	100	45	-	0
Lehman	-	1	-	0	50	8	-	0	67	66	-	0
Queens	56	9	13	15	-	7	50	14	100	19	-	3
York	-	1	-	0	-	7	-	0	100	18	-	0
TOTAL	52	25	13	15	58	50	53	15	78	277		3

At these schools no such benefit was apparent the following year.

There are also some isolated cases of restricted credit load effects for regular students. These occur for the 1971 freshmen. At Lehman, those who attempted less than 16 credits did as well as those who attempted 16-23.99 credits. However, their performance did not approximate the performance of those taking 24 or more credits. Only at York does restricted credit load appear to equalize performance.

In summary, the policy of reduced credit load appears to have had some effect for level B students, particularly in 1971. Those who took moderately reduced loads (16-23.99 credits in the first year) approximated the performance of those not restricted. For other levels, there are only a few isolated instances suggesting any effect of credit restrictions. However, on the basis of these current findings, we believe that it is premature to consider abandoning the policy. In the first place, our analyses are crude in that they do not separate the groups shown in the following chart:

	Reduced Credit Load	
Taking Remediation	YES	NO
YES	A	B
NO	C	D

If we were to distinguish between those in cell A and those in cell C, it is possible that the results described above might be different. Until these forthcoming analyses have been performed, we believe that no inferences should be made concerning policy.

3. Compensatory Programs and Student Retention. The effects of compensatory programs involve more than academic performance. We also wish to consider the question of effects on retention.

The relationship between remediation experience in the first semester of the freshman year and retention after one semester is depicted in table 4.10. If one considers all of the data for the senior colleges as a group, it is apparent that students who took remediation in their first semester were just as likely to return for their second semester as those who did not take remediation. Indeed, for 1971 level B and A.1 students, the remedials were more likely to be retained. Inasmuch as those who took remediation usually had lower levels of academic skills, one would expect their retention to be lower. Since it is not, one may infer that the remedial experience increased the likelihood of retention, at least during the early stages of the students' academic careers.

What is true in general for the senior colleges does not hold necessarily for every individual college. This is particularly the case for regular students who took remediation. At Baruch in both 1970 and 1971, students who took no remediation were more

TABLE 4.10

Comparison of 1970 & 1971 Freshmen: Retention Rates After One Semester in Relation to First Semester Remediation (Senior Colleges)

LEVEL B

	No Rem.				One Rem.				2+ Rem.			
COLLEGE	70	N	71	N	70	N	71	N	70	N	71	N
Baruch	54%	11	-%	4	79%	39	92%	12	90%	39	84%	32
Brooklyn	88	33	92	12	80	10	-	3	-	-	-	-
City College	80	41	-	1	67	12	92	13	73	15	85	87
Hunter	72	18	-	2	86	22	-	-	38	13	100	9
Lehman	89	19	-	6	78	23	93	55	82	62	91	11
Queens	-	2	68	79	-	1	-	5	-	3	-	7
York	90	10	-	-	93	15	8-	6	89	46	100	8
TOTAL	81	134	72	104	81	122	90	94	81	178	87	154

LEVEL A.1

	No Rem.				One Rem.				2+ Rem.			
COLLEGE	70	N	71	N	70	N	71	N	70	N	71	N
Baruch	91%	46	83%	58	92%	104	81%	96	91%	66	94%	106
Brooklyn	92	179	91	22	96	25	-	7	-	-	-	1
City College	79	104	79	57	90	80	81	151	87	87	85	388
Hunter	79	125	83	97	78	130	81	31	76	34	94	110
Lehman	89	124	86	127	81	58	87	210	82	113	97	31
Queens	75	12	64	22	81	26	100	8	100	17	-	3
York	85	47	91	34	77	44	86	66	93	87	94	78
TOTAL	86	637	83	417	85	467	84	569	87	404	89	717

TABLE 4.10

Comparison of 1970 & 1971 Freshmen: Retention Rates After One Semester in Relation to First Semester Remediation (Senior Colleges)

LEVEL A.2

COLLEGE	No Rem. 70	N	71	N	One Rem. 70	N	71	N	2+ Rem. 70	N	71	N
Baruch	89%	211	87%	172	89%	204	89%	207	96%	51	89%	137
Brooklyn	93	525	87	273	94	48	87	24	–	–	–	1
City College	89	272	84	129	88	193		253	86	156	86	458
Hunter	84	320	88	423	79	234	78	45	89	64	91	213
Lehman	84	534	85	396	84	103	85	263	84	110	77	48
Queens	90	160	87	100	92	219	83	95	92	79	83	23
York	88	158	90	107	89	98	89	124	89	106	87	91
TOTAL	88	2180	87	1600	87	1099	86	1011	88	566	87	971

REGULAR

COLLEGE	No Rem. 70	N	71	N	One Rem. 70	N	71	N	2+ Rem. 70	N	71	N
Baruch	94%	222	89%	257	93%	164	93%	210	86%	22	84%	6
Brooklyn	96	2797	95	2394	91	11	110	8	–	–	–	
City College	93	1067	90	456	93	249	92	428	94	129	90	32
Hunter	87	1371	89	1414	84	303	78	65	91	66	88	22
Lehman	90	773	92	791	90	49	95	151	88	51	100	
Queens	93	1283	93	1485	94	1042	94	678	95	237	91	8
York	85	65	90	115	88	25	96	78	92	26	90	4
TOTAL	93	7578	92	6912	92	1843	93	1618	93	531	89	76

TABLE 4.10

Comparison of 1970 & 1971 Freshmen: Retention Rates After One Semester in Relation to First Semester Remediation (Senior Colleges)

NO HIGH SCHOOL AVERAGE

	No Rem.				One Rem.				2+ Rem.			
COLLEGE	70	N	71	N	70	N	71	N	70	N	71	N
Baruch	-	1	-	1	-	-	-	-	-	-	-	-
Brooklyn	85	161	-	1	70	10	-	-	-	-	-	-
City College	-	3	-	-	-	-	-	-	-	1	-	-
Hunter	73	63	-	-	78	23	-	-	-	5	-	-
Lehman	85	52	-	-	100	18	-	-	72	18	-	-
Queens	82	17	-	7	93	14	84	19	89	9	93	14
York	89	9	-	-	-	7	-	-	100	12	-	-
TOTAL	82	306	44	9	86	72	84	19	84	45	93	14

likely to return for their second semester than students who took two or more remedial courses in their first term. At Hunter students in the 1971 group who took one remedial course were less likely to enroll for the second semester than students who took no remedial course or who took two such courses.

The relation between retention rates and credits attempted is shown in table 4.11. For the senior colleges as a group the findings are quite clear; they indicate that students who attempt very few credits (less than 8) in the initial term of college are less likely to return for the second semester. However, with the exception of regular students, those who began with moderately reduced loads did about as well as those on regular loads, particularly in 1971.

There are some instances where individual colleges depart from this trend. Thus, level B students in the 1971 group at Lehman College who attempted less than 8 credits,were as likely to return for their second semester as those who registered for 12 or more credits.

In summary,the data on credit restriction indicate that a moderate restriction of credit seems to increase the chances that a student will return for the second semester of the freshmen year. This is true for level B students in 1971, for level A.1 students in both years, and for A.2 students in 1971.

Table 4.11

Comparison of 1970 and 1971 Freshmen: Retention Rates After One Semester in Relation to First Semester Credits Attempted (Senior Colleges)

	LEVEL B											
	Less than 8				8-11.99				12 or More			
College	70	N	71	N	70	N	71	N	70	N	71	N
Baruch	67%	33	81%	26	86%	36	86%	14	95%	20	100%	8
Brooklyn	-	2	-	2	92	12	-	5	86	29	100	8
City College	58	36	83	77	94	18	95	19	100	14	-	5
Hunter	39	23	-	3	83	12	-	4	100	18	-	4
Lehman	55	11	89	28	75	24	91	23	90	69	90	21
Queens	-	3	55	51	-	1	92	37	-	2	-	3
York	76	17	88	8	89	28	-	5	100	26	-	1
Total	58	125	76	195	86	131	92	107	93	178	96	50

TABLE 4.11

Comparison of 1970 and 1971 Freshmen: Retention Rates After One Semester in Relation to First Semester Credits Attempted (Senior Colleges)

	LEVEL A.1											
	Less than 8				8-11.99				12 or More			
COLLEGE	70	N	71	N	70	N	71	N	70	N	71	N
Baruch	83%	42	73%	74	92%	89	91%	112	95%	85	95%	74
Brooklyn	67	12	-	2	97	32	78	9	93	160	100	19
City College	50	58	77	239	90	72	87	203	96	141	88	154
Hunter	42	72	52	54	88	76	96	84	91	141	100	100
Lehman	42	26	67	81	83	36	93	82	90	233	93	205
Queens	75	20	53	15	89	19	92	13	94	16	-	5
York	75	20	75	53	89	53	96	68	89	105	98	57
TOTAL	57	250	71	518	90	377	91	571	92	881	94	614

Table 4.11

Comparison of 1970 and 1971 Freshmen: Retention Rates After One Semester in Relation to First Semester Credits Attempted (Senior Colleges)

	LEVEL A.2											
	Less than 8				8-11.99				12 or More			
College	70	N	71	N	70	N	71	N	70	N	71	N
Baruch	70%	56	70%	102	89%	139	91%	188	94%	271	94%	226
Brooklyn	52	23	59	17	93	58	88	49	95	492	90	232
City College	53	70	71	210	86	155	87	258	95	396	92	372
Hunter	39	117	40	110	86	123	96	204	95	378	98	367
Lehman	20	45	48	85	71	35	89	71	89	667	90	551
Queens	73	99	47	38	94	133	87	60	98	226	96	120
York	60	25	73	60	89	81	84	114	91	256	99	148
Total	53	435	61	622	88	724	90	944	93	2686	93	2016

Table 4.11

Comparison of 1970 and 1971 Freshmen: Retention Rates After One Semester in Relation to First Semester Credits Attempted (Senior Colleges)

	Regular											
	Less than 8				8-11.99				12 or More			
College	70	N	71	N	70	N	71	N	70	N	71	N
Baruch	68%	25	60%	75	89%	82	96%	114	97%	301	95%	346
Brooklyn	54	52	37	46	90	110	92	96	97	2646	97	2260
City College	51	91	73	159	90	185	89	322	97	1169	95	932
Hunter	36	207	34	228	84	203	89	169	95	1330	97	1304
Lehman	18	28	39	36	75	24	96	28	93	821	94	886
Queens	65	181	60	168	90	437	90	317	97	1944	97	1766
York	50	8	71	28	91	11	89	53	90	97	97	161
Total	49	592	53	740	88	1052	90	1099	96	8308	96	7455

Table 4.11

Comparison of 1970 and 1971 Freshmen: Retention Rates After One Semester in Relation to First Semester Credits Attempted (Senior Colleges)

	No High School Average											
	Less than 8				8-11.99				12 or More			
College	70	N	71	N	70	N	71	N	70	N	71	N
Baruch	- %	1	- %	0	- %	0	- %	1	- %	0	- %	0
Brooklyn	33	9	-	0	88	17	-	0	87	145	-	1
City College	-	3	-	0	-	1	-	0	-	0	-	0
Hunter	37	19	-	0	75	16	-	0	89	56	-	0
Lehman	-	4	-	0	87	8	-	0	87	76	-	0
Queens	-	6	70	27	83	12	100	11	95	22	-	2
York	-	2	-	0	-	7	-	0	95	19	-	0
Total	45	44	70	27	84	61	92	12	88	318	-	3

FRESHMAN YEAR ACADEMIC PERFORMANCE IN RELATION TO COMPENSATORY EXPERIENCE: COMMUNITY COLLEGES

This section proceeds in the same fashion as the previous section. We consider first the relation between remedial course experience and academic performance. Second, we look at the effects of restricted credit loads. Third, compensatory experience is considered in relation to retention.

Remediation and Academic Performance

Before presenting the data, it is first necessary to consider the relationship between OAT reading scores and remediation. Table 4.12 presents the results. For the community colleges as a group, and for all levels of high school average, students who took remediation had lower mean OAT scores than those who did not. It should be pointed out that one remedial category (spring only) frequently shows OAT scores which are similar to the non-remedial group. However, relatively few students exhibit this pattern of remediation. The great majority of remedial students took it in the fall only, followed by those who took it for both terms. Inasmuch as these groups have lower OAT scores than the non-remedial category, we can invoke the previously stated assessment criterion; namely, that remediation is considered to have beneficial effects if remedial students perform as well or better than their counterparts in the same high school category who did not take remediation.

It should be noted that the pattern of OAT scores for individual campuses does, in some cases, depart from the general

Table 4.12
Comparison of 1970 and 1971 Freshmen: OAT Reading Scores in Relation to First Year Remediation (Community Colleges)

Level B

College	No. Rem.		Rem. Fall Only		Rem. Spring Only		Rem. Both Terms	
	1970	1971	1970	1971	1970	1971	1970	1971
Kingsborough	32.8 (213)	34.7 (132)	32.6 (169)	24.0 (101)	31.9 (54)	33.3 (24)	33.4 (111)	26.5 (27)
NYCCC	33.6 (216)	32.0 (128)	28.2 (141)	28.5 (64)	28.0 (5)	31.0 (6)	22.3 (65)	22.4 (22)
Queensborough	40.6 (114)	38.7 (55)	34.4 (274)	32.9 (202)	30.8 (274)	30.3 (4)	30.0 (144)	27.5 (43)
Staten Island	39.7 (98)	31.6 (81)	31.1 (146)	31.5 (74)	34.3 (10)	32.5 (4)	26.0 (15)	19.0 (1)
TOTAL	(35.5) (641)	33.7 (396)	32.1 (730)	30.0 (441)	31.8 (78)	32.5 (38)	29.4 (335)	25.9 (93)

Level A

College	No. Rem.		Rem. Fall Only		Rem. Spring Only		Rem. Both Terms	
	1970	1971	1970	1971	1970	1971	1970	1971
Kingsborough	37.4 (210)	36.9 (225)	37.2 (135)	25.8 (131)	34.1 (39)	33.6 (21)	36.2 (125)	33.2 (26)
NYCCC	35.4 (259)	35.2 (140)	28.8 (107)	27.5 (62)	33.9 (9)	22.3 (4)	21.6 (58)	23.4 (18)
Queensborough	42.3 (278)	41.6 264	36.9 (348)	35.0 (285)	39.0 (8)	30.0 (2)	31.3 (106)	28.9 (56)
Staten Island	41.3 (210)	36.9 (121)	32.9 (186)	33.0 (56)	34.7 (3)	28.5 (2)	29.8 (17)	32.0 (1)
TOTAL	39.1 (957)	38.2 (750)	34.9 (776)	31.8 (532)	34.7 (59)	31.4 (29)	31.4 (306)	29.1 (101)

Table 4.12
Comparison of 1970 and 1971 Freshmen: OAT Reading Scores in Relation to First Year Remediation (Community Colleges)

Regular 1

College	No. Rem.		Rem. Fall Only		Rem. Spring Only		Rem. Both Terms	
	1970	1971	1970	1971	1970	1971	1970	1971
Kingsborough	40.5 (157)	38.1 (191)	39.9 (63)	27.8 (87)	40.2 (33)	38.6 (26)	37.3 (33)	33.0 (21)
NYCCC	37.4 (230)	37.3 (118)	29.2 (71)	26.1 (39)	30.3 (11)	35.3 (6)	22.0 (21)	23.8 (13)
Queensborough	44.5 (308)	43.0 (314)	38.1 (215)	35.8 (200)	34.1 (7)	36.8 (6)	26.6 (45)	31.1 (4)
Staten Island	44.3 (219)	39.1 (87)	34.7 (110)	35.0 (41)	38.3 (3)	40.0 (2)	25.4 (10)	0
TOTAL	42.0 (914)	40.3 (710)	36.1 (459)	32.8 (367)	37.3 (54)	37.9 (40)	30.0 (109)	30.3 (68)

Regular 2

College	No. Rem.		Rem. Fall Only		Rem. Spring Only		Rem. Both Terms	
	1970	1971	1970	1971	1970	1971	1970	1971
Kingsborough	32.8 (213)	39.0 (75)	32.6 (169)	29.0 (26)	31.9 (54)	40.6 (7)	33.4 (111)	35.6 (7)
NYCCC	40.9 (132)	39.6 (105)	24.5 (26)	31.4 (15)	32.2 (9)	37.0 (2)	25.3 (14)	21.8 (5)
Queensborough	48.2 (137)	45.1 (165)	38.7 (74)	36.8 (74)	29.0 (1)	49.0 (3)	34.0 (9)	37.5 (4)
Staten Island	46.9 (182)	43.6 (70)	33.7 (42)	41.9 (13)	38.0 (5)	33.0 (1)	35.0 (1)	0 (0)
TOTAL	41.6 (664)	42.4 (415)	36.6 (165)	35.1 (128)	36.7 (23)	41.4 (13)	32.0 (28)	31.8 (16)

community college pattern. Thus, for level B students at Kingsborough (1970 cohort) the remedial and non-remedial students have very similar OAT scores. The same is true for the 1971 cohort at Staten Island. Kingsborough seems to show the same pattern for other levels of high school average for the 1970 cohort. With this in mind, we should expect somewhat more from Kingsborough (for the 1970 cohort). That is, since the remedial students are at about the same level as the non-remedial students, the exposure to remediation should have the effect of generating superiority rather than equality in academic performance.

Table 4.13 presents the relationship between first year remedial experience and cumulative GPA (since Borough of Manhattan Community College has, for all practical purposes, not used remedial courses as a compensatory device for the students included in this study, they are excluded from the analyses). For level B students at Kingsborough it appears that remediation, particularly for those who took it both terms, was effective. In 1970, 54% who took no remediation earned a C average, compared with 66% who took it both terms. In 1971, all remedial groups at Kingsborough showed benefits from remediation. At NYCCC, those who took remediation in the fall only (1971 cohort) performed as well as those who took no remediation. At Queensborough the data indicate that remediation was effective for the 1970 group, but not for the 1971 cohort.

TABLE 4.13

Comparison of 1970 and 1971 Freshmen: Relation of One Year Cumulative Grade Point Average and First Year Remediation (Community Colleges)

Level B

COLLEGE	No Remediation				Remediation Fall Only				Remediation Spring Only				Remediation Both Terms			
	70	N	71	N	70	N	71	N	70	N	71	N	70	N	71	N
Kingsboro	54%	209	41%	154	54%	161	42%	116	58%	57	56%	32	66%	137	53%	51
NYCCC	49	237	51	150	39	128	51	72	-	7	75	8	30	83	30	40
Queensboro	22	140	40	60	30	251	31	222	8	12	--	6	22	176	21	68
Staten Island	40	91	52	185	32	142	34	163	25	12	29	17	29	17	12	8
TOTAL	44	677	48	549	38	682	37	573	45	88	50	63	39	413	32	167

For level A students at Kingsborough there is again the strong suggestion for both classes that remediation was beneficial. At NYCCC this was true for the 1970 freshmen who took remediation in the fall only. However, it was not true for those who took remediation both terms. The same conclusion applies to Queensborough. At Staten Island the data suggest that 1971 freshmen who took remediation in the fall performed almost as well as those who took no remediation.

For regular 1 students, the Kingsborough data show that the 1970 remedial group performed at about the same level as the non-remedial group. Those who took remediation in both terms did have a lower OAT mean than those who took no remediation at all. Since the former perform almost as well as the latter, this would indicate an effect of remediation for the 1970 class. Effects are also noted for the 1971 group. No other effects are noted for this level, with the possible exception of Queensborough, where the 1970 freshmen who took remediation in the fall only were almost as likely to attain a C average as their counterparts who took no remediation.

For regular 2 students the data are harder to interpret, since relatively few took remedial work. However Kingsborough again evidences some positive effects of remedial course work for these students.

Data on credit ratio are presented in table 4.14. For level B students positive outcomes for some remedial groups are exhibited at the following colleges: Kingsborough for both classes, NYCCC

TABLE 4.13

Comparison of 1970 and 1971 Freshmen:
Relation of One Year Cumulative Grade Point Average
and First Year Remediation
(Community Colleges)

Level A

COLLEGE	No Remediation				Remediation Fall Only				Remediation Spring Only				Remediation Both Terms			
	71	N	71	N	70	N	71	N	70	N	71	N	70	N	71	N
Kingsboro	69%	221	68%	254	72%	149	67%	159	68%	50	77%	26	77%	162	67%	42
NYCCC	57	270	65	192	59	100	56	57	54	13	45	11	37	71	33	33
Queensboro	46	287	57	290	46	358	48	289	67	9	-	6	36	142	36	80
Staten Island	50	199	59	319	43	186	55	110	--	3	50	10	33	24	--	2
TOTAL	55	978	62	1055	52	793	80	615	66	75	67	53	53	399	44	157

Regular 1

COLLEGE	No Remediation				Remediation Fall Only				Remediation Spring Only				Remediation Both Terms			
	70	N	71	N	70	N	71	N	70	N	71	N	70	N	71	N
Kingsboro	85%	163	81%	222	85%	65	76%	104	88%	41	97%	33	82%	45	87%	30
NYCCC	81	243	83	147	61	62	63	41	64	11	62	8	43	23	47	17
Queensboro	67	342	76	70	62	208	65	215	78	9	6	11	39	56	50	52
Staten Island	68	243	78	251	53	107	56	78	--	4	-	5	30	10	--	--
TOTAL	74	991	79	90	61	442	66	438	83	65	73	57	54	134	61	99

TABLE 4.13

Comparison of 1970 and 1971 Freshmen:
Relation of One Year Cumulative Grade Point Average
and First Year Remediation
(Community Colleges)

Regular 2

COLLEGE	No Remediation				Remediation Fall Only				Remediation Spring Only				Remediation Both Terms			
	70	N	71	N	70	N	71	N	70	N	71	N	70	N	71	N
Kingsboro	90%	51	92%	86	96%	24	89%	28	82%	11	100%	9	--	6	100%	9
NYCCC	88	141	90	122	73	30	87	15	60	10	---	3	80	15	67	9
Queensboro	89	140	89	179	76	70	78	68	--	2	---	4	54	11	--	7
Staten Island	88	193	90	196	70	43	85	26	--	5	---	2	---	1	---	-
TOTAL	88	525	90	583	77	167	82	137	69	28	94	18	76	33	76	25

NO HIGH SCHOOL AVERAGE

COLLEGE	No Remediation				Remediation Fall Only				Remediation Spring Only				Remediation Both Terms			
	70	N	71	N	70	N	71	N	70	N	71	N	70	N	71	N
Kingsboro	68%	47	61%	18	50%	22	62%	29	65%	17	--	--	71%	24	--%	5
NYCCC	39	62	36	11	40	37	--	7	--	3	--	1	34	44	--	7
Queensboro	60	35	--	--	53	38	--	1	--	3	--	--	42	36	--	2
Staten Island	53	70	--	5	50	34	31	13	--	1	--	1	--	2	--	--
TOTAL	53	214	50	34	48	131	50	50	60	24	--	2	45	106	21	14

TABLE 4.14

Comparison of 1970 and 1971 Freshmen:
Relation of One Year Cumulative Credit Ratio and First Year Remediation
(Community Colleges)

Level B

COLLEGE	No Remediation				Remediation Fall Only				Remediation Spring Only				Remediation Both Terms			
	70	N	71	N	70	N	71	N	70	N	71	N	70	N	71	N
Kingsboro	98%	210	73%	144	100%	163	70%	115	100%	57	78%	32	99%	137	70%	50
NYCCC	72	235	73	146	69	124	83	69	-	7	75	8	57		59	37
Queensboro	59	121	68	59	61	239	71	206	50	10	-	6	52	162	44	61
Staten Island	56	89	75	174	55	139	59	159	64	11	57	14	71	14	37	8
TOTAL	76	655	73	523	71	665	69	549	85	85	73	60	70	395	55	156

(for both classes but not for all categoris of remediation), Queensborough (for both classes but not all remedial categories) and Staten Island (for the 1970 freshmen).

For level A students positive effects of remediation are observed at Kingsborough (for the 1971's), NYCCC (some instances for both classes), Queensborough (some instances for both classes), and Staten Island (only for the 1970 class).

For regular 1 students we note remedial effects again in the case of Kingsborough and Queensborough (for the 1971 class).

For regular 2 students, if remediation occurred, it was taken primarily in the fall only. These remedial students were as likely to earn a .75 credit ratio as the non-remedial students, particularly for the 1971 freshmen. This was true on every campus. There were also effects for the 1970 freshmen but they occur with less consistency.

Restricted Credit Load and Academic Performance

Table 4.15 describes the relationship between OAT reading scores and credits attempted in the freshman year. In general, students who attempted fewer credits also had lower OAT scores. However, the differences are not as marked as noted for the case of remedial categories. Furthermore, there are some reversals. That is, there are cases in which those who attempted less than 16 credits have scores equal to, or greater than students who attempted 16-23.99 credits.

TABLE 4.14

Comparison of 1970 and 1971 Freshmen:
Relation of One Year Cumulative Credit Ratio
and First Year Remediation
(Community Colleges)

Level A

COLLEGE	No Remediation				Remediation Fall Only				Remediation Spring Only				Remediation Both Terms			
	70	N	71	N	70	N	71	N	70	N	71	N	70	N	71	N
Kingsboro	99%	221	85%	250	98%	149	87%	159	100%	50	77%	26	100%	163	92%	40
NYCCC	83	267	81	189	82	99	77	57	77	13	82	11	68	69	70	33
Queensboro	76	274	78	286	76	353	78	277	87	8	--	6	68	129	62	74
Staten Island	73	189	78	306	70	182	70	115	---	3	50	10	50	24	--	--
TOTAL	83	951	81	1031	80	783	79	608	94	74	77	53	80	385	72	147

Regular 1

COLLEGE	No Remediation				Remediation Fall Only				Remediation Spring Only				Remediation Both Terms			
	70	N	71	N	70	N	71	N	70	N	71	N	70	N	71	N
Kingsboro	100%	165	93%	221	100%	65	92%	104	100%	41	100%	33	100%	45	97%	29
NYCCC	89	240	90	147	80	59	80	41	82	11	87	8	65	23	76	17
Queensboro	86	333	89	365	81	206	86	209	87	8	64	11	70	50	81	48
Staten Island	85	241	89	247	69	106	73	78	--	4	-	5	78	9	--	--
TOTAL	89	979	90	980	81	436	85	432	95	64	88	57	80	127	85	94

TABLE 4.14

Comparison of 1970 and 1971 Freshmen: Relation of One Year Cumulative Credit Ratio and First Year Remediation (Community Colleges)

Regular 2

COLLEGE	No Remediation				Remediation Fall Only				Remediation Spring Only				Remediation Both Terms			
	70	N	71	N	70	N	71	N	70	N	71	N	70	N	71	N
Kingsboro	100%	51	95%	85	100%	24	93%	28	100%	11	100%	9	--	6	100%	9
NYCCC	94	140	93	122	87	30	93	15	70	10	---	3	87	15	78	9
Queensboro	96	136	93	179	91	70	92	66	---	2	---	4	80	10	--	7
Staten Island	93	191	95	196	84	43	92	26	---	5	---	2	---	1	---	--
TOTAL	95	518	94	582	90	167	93	135	90	28	94	18	87	32	92	25

NO HIGH SCHOOL AVERAGE

COLLEGE	No Remediation				Remediation Fall Only				Remediation Spring Only				Remediation Both Terms			
	70	N	71	N	70	N	71	N	70	N	71	N	70	N	71	N
Kingsboro	96%	47	76%	17	100%	22	76%	29	100%	16	--	--	100%	24	%	5
NYCCC	67	58	70	10	75	36	--	6	---	3	--	1	64	39		6
Queensboro	91	33	--	--	78	37	--	1	---	3	--	--	69	29	--	1
Staten Island	62	68	--	5	64	33	54	13	---	1	--	1	--	2	--	--
TOTAL	76	206	75	32	77	128	72	49	87	23	--	2	74	94	50	12

Table 4.15

Comparison of 1970 and 1971 Freshmen: OAT Reading Scores in Relation to Credits Attempted in First Year (Community Colleges)

Level B

College	24 or More		16 - 23.99		Less Than 16	
	1970	1971	1970	1971	1970	1971
Kingsborough	33.8 (158)	30.1 (129)	31.7 (134)	29.5 (64)	32.4 (181)	29.7 (77)
Manhattan	33.2 (84)	33.1 (54)	31.2 (38)	30.2 (48)	29.7 (56)	30.1 (40)
NYCCC	32.2 (166)	32.6 (82)	28.8 (110)	28.7 (47)	28.9 (121)	29.6 (67)
Queensborough	39.7 (86)	36.8 (41)	34.0 (155)	32.6 (105)	33.3 (263)	32.5 (141)
Staten Island	35.6 (99)	34.0 (42)	34.1 (91)	31.6 (48)	30.4 (66)	30.2 (61)
Total	34.4 (593)	32.4 (348)	32.2 (528)	30.9 (312)	31.7 (687)	30.8 (386)

Level A

College	24 or More		16 - 23.99		Less Than 16	
	1970	1971	1970	1971	1970	1971
Kingsborough	37.5 (253)	33.0 (235)	37.1 (112)	32.4 (78)	35.6 (99)	32.8 (74)
Manhattan	34.1 (115)	32.3 (84)	31.3 (49)	33.0 (28)	34.1 (62)	34.4 (37)
NYCCC	34.6 (203)	33.9 (117)	29.4 (96)	29.9 (40)	29.9 (102)	29.8 (45)
Queensborough	40.9 (203)	40.8 (166)	38.3 (246)	36.8 (204)	35.4 (247)	35.3 (202)
Staten Island	39.1 (203)	36.8 (59)	35.5 (105)	34.0 (62)	34.5 (85)	36.1 (50)
Total	37.5 (977)	35.4 (661)	35.6 (608)	34.6 (412)	34.2 (595)	34.2 (408)

Table 4.15

Comparison of 1970 and 1971 Freshmen: OAT Reading Scores in Relation to Credits Attemtped in First Year (Community Colleges)

Regular 1

College	24 or More		16 - 23.99		Less Than 16	
	1970	1971	1970	1971	1970	1971
Kingsborough	40.3 (187)	35.6 (212)	37.9 (43)	31.4 (54)	40.5 (41)	36.9 (53)
Manhattan	37.4 (111)	35.9 (50)	33.1 (32)	31.6 (17)	35.0 (44)	35.5 (24)
NYCCC	36.3 (203)	34.8 (98)	30.2 (58)	31.1 (28)	32.3 (55)	32.0 (32)
Queensborough	43.6 (222)	43.0 (214)	40.0 (171)	38.9 (81)	37.4 (145)	35.7 (134)
Staten Island	42.0 (222)	38.9 (66)	37.5 (68)	36.3 (35)	38.4 (47)	36.4 (24)
Total	40.3 (945)	38.3 (640)	37.2 (372)	36.3 (315)	36.8 (332)	35.6 (267)

Regular 2

College	24 or More		16 - 23.99		Less Than 16	
	1970	1971	1970	1971	1970	1971
Kingsborough	43.4 (69)	36.7 (84)	41.1 (9)	35.4 (12)	43.0 (5)	34.7 (15)
Manhattan	36.0 (60)	36.0 (36)	33.3 (17)	36.6 (7)	34.7 (21)	33.0 (7)
NYCCC	39.2 (123)	39.5 (91)	33.5 (34)	31.8 (13)	36.0 (21)	35.4 (10)
Queensborough	47.4 (112)	44.1 (118)	41.9 (47)	40.9 (70)	41.3 (44)	41.2 (51)
Staten Island	44.9 (174)	44.3 (57)	44.6 (26)	38.6 (10)	41.1 (24)	43.3 (14)
Total	42.9 (538)	40.7 (386)	39.1 (133)	38.8 (112)	39.1 (115)	39.3 (97)

Table 4.16 presents the findings for GPA. For the community colleges as a group, there are no instances in which restricted credit loads could be interpreted as having any visible effects on GPA. This is true for all levels of high school average and for both cohorts.

Some of the individual colleges depart from the generalization stated above. For level B students, this occurs at Kingsborough, where those who register for less than 16 credits were more likely to attain a C average than those who registered for 16-23.99 credits. It also occurs for the 1970 freshmen at Staten Island, where the students attempting less than 16 credits were more likely to achieve a C average than those attempting 16-23.99.

For level A students, the only instance of a positive effect for restricted credit load occurs at Kingsborough, where the 1970 group who attempted less than 16 credits were just as likely to achieve a 2.00 GPA as those attempting 16-23.99 credits. An effect is also noted at this college for the 1971 group. Here the students attempting less than 16 credits were more likely to earn a C than those attempting 16-23.99 credits.

For regular 1 students no effects are noted at any college. The apparent effect at Kingsborough for the 1970 freshmen is vitiated by the fact that the group attempting less than 16 credits had a higher OAT score than the group attempting 16-23.99 credits.

Comparison of 1970 and 1971 Freshmen: One Year Cumulative Grade Point Average in Relation to Credits Attempted in First Year (Percent with 2.00 or Better GPA): Community Colleges

	Level B											
	Less Than 16				16-23.99				24 or More			
College	70	N	71	N	70	N	71	N	70	N	71	N
Manhattan	68 %	38	33 %	43	69 %	55	58 %	69	90 %	101	84 %	89
Kingsborough	52	197	36	67	46	168	32	105	72	199	55	181
NYCCC	27	94	30	80	36	143	42	66	53	218	64	124
Queensborough	22	238	24	153	23	217	34	149	35	124	44	54
Staten Island	28	39	31	103	22	100	37	139	46	123	57	131
Total	36	606	29	446	35	683	38	528	59	765	61	579

	Level A											
	Less Than 16				16-23.99				24 or More			
College	70	N	71	N	70	N	71	N	70	N	71	N
Manhattan	68%	28	53%	34	80 %	59	61%	41	92%	139	87%	126
Kingsborough	57	104	56	59	58	153	49	109	83	325	76	313
NYCCC	28	71	24	38	43	121	49	75	66	263	71	180
Queensborough	29	226	38	169	47	326	44	278	56	244	70	218
Staten Island	10	50	43	91	35	123	50	159	59	239	71	191
Total	35	479	42	391	49	782	48	662	70	1210	74	1028

Table 4.16

Comparison of 1970 and 1971 Freshmen: One Year Cumulative Grade Point Average in Relation to Credits Attempted in First Year (Percent with 2.00 or Better GPA): Community Colleges

Regular 1

College	Less Than 16				16-23.99				24 or More			
	70	N	71	N	70	N	71	N	70	N	71	N
Manhattan	79 %	14	44 %	16	69 %	39	80 %	25	98 %	133	95 %	75
Kingsborough	70	37	63	46	71	51	69	75	90	226	88	268
NYCCC	37	30	42	26	49	65	57	42	85	244	87	145
Queensborough	32	111	50	126	61	221	63	238	77	283	84	284
Staten Island	33	30	53	38	45	80	66	110	72	254	80	186
Total	42	222	52	252	58	456	65	490	83	1140	85	958

Regular 2

College	Less Than 16				16-23.99				24 or More			
	70	N	71	N	70	N	71	N	70	N	71	N
Manhattan	100 %	8	- %	4	90 %	21	83 %	12	97 %	70	98 %	52
Kingsborough	-	5	71	14	54	11	86	14	99	76	96	104
NYCCC	45	11	54	11	74	38	83	18	89	147	92	120
Queensborough	56	27	65	43	68	63	81	79	95	133	94	136
Staten Island	50	16	85	26	68	28	81	42	89	198	92	156
Total	58	67	70	98	71	161	82	165	92	624	94	568

Table 4.16

Comparison of 1970 and 1971 Freshmen: One Year Cumulative Grade Point Average in Relation to Credits Attempted in First Year (Percent with 2.00 or Better GPA): Community Colleges

	No High School Average											
	Less Than 16				16-23.99				24 or More			
College	70	N	71	N	70	N	71	N	70	N	71	N
Manhattan	73 %	26	12 %	8	78 %	27	-%	5	91 %	53	90 %	10
Kingsborough	60	40	58	12	50	22	63	27	75	48	54	13
NYCCC	21	48	11	9	35	48	-	6	56	50	45	11
Queensborough	35	43	-	3	51	39	-	0	77	30	-	0
Staten Island	27	15	-	6	44	25	37	8	60	67	-	5
Total	42	172	29	38	50	161	48	46	71	248	59	39

For regular 2 students no effects are noted. The apparent effect at Staten Island for the 1971 freshmen (those who attempted less than 16 credits were about as likely to earn a C average as those attempting 16-23.99 credits)is negated by the fact that the latter had lower OAT scores.

Data for credit ratio are presented in table 4.17. For the community colleges as a group,there are no cases for any level of high school average or for either freshman class in which there are any visible effects of restricted credit load. There are two instances (one for level B and one for regular 2 students) in which students attempting less than 16 credits appear to do as well as those attempting 16-23.99 credits. However in both of these cases,students in the former group do not differ significantly from the latter group in OAT mean scores.

Certain colleges depart from the overall findings noted above. For level B students in 1970 at Staten Island, those who attempted less than 16 credits were about as likely to earn a .75 credit ratio as those who attempted 16-23.99 credits.

For Kingsborough level A students in the 1970 cohort, the performance of those attempting less than 16 credits equals that of the 16-23.99 and 24 or more categories. Inasmuch as the less than 16 group had lower OAT scores,this indicates some effect of restricted credit load for this college. The apparent effect at Staten Island for the 1971 group may be discounted since those attempting less than 16 credits had a higher OAT mean score than those attempting 16-23.99 credits.

Table 4.17

Comparison of 1970 and 1971 Freshmen: One Year Cumulative Credit Ratio in Relation to Credits Attempted in First Year (Percent with Credit Ratio of .75 or Better): Community Colleges

	LEVEL B											
	Less Than 16				16 - 23.99				24 or more			
College	70	N	71	N	70	N	71	N	70	N	71	N
Manhattan	76%	37	62%	40	82%	55	70%	69	95%	101	93%	89
Kingsborough	97	200	58	57	100	68	59	103	100	199	83	181
NYCCC	44	87	55	71	64	143	72	65	81	218	85	124
Queensboro	50	204	52	132	57	206	75	146	72	122	76	54
Staten Island	42	33	50	93	45	99	64	135	70	121	80	127
Total	67	561	54	393	70	671	68	518	85	761	84	575

	LEVEL A											
	Less Than 16				16 - 23.99				24 or more			
College	70	N	71	N	70	N	71	N	70	N	71	N
Manhattan	65%	26	61%	28	91%	59	75%	40	97%	139	94%	126
Kingsborough	97	105	75	53	99	153	72	109	100	325	93	313
NYCCC	59	64	37	35	74	121	77	75	88	263	88	180
Queensboro	60	202	62	151	76	319	74	274	86	243	90	218
Staten Island	37	43	68	79	59	120	68	161	82	235	84	191
Total	67	440	63	345	79	772	73	659	91	1205	90	1028

Table 4.17

Comparison of 1970 and 1971 Freshmen: One Year Cumulative Credit Ratio in Relation to Credits Attempted in First Year (Percent with Credit Ratio of .75 or Better): Community Colleges

	REGULAR 1											
	Less Than 16				16 - 23.99				24 or more			
College	70	N	71	N	70	N	71	N	70	N	71	N
Manhattan	86%	14	54%	13	79%	39	80%	25	98%	133	97%	75
Kingsborough	100	39	75	44	100	51	87	75	100	226	98	268
NYCCC	44	25	69	26	72	64	76	42	93	244	94	145
Queensboro	64	101	72	116	78	214	84	233	94	282	95	284
Staten Island	46	28	67	36	69	80	82	109	87	252	91	185
Total	68	207	71	235	78	448	83	484	94	1137	95	957

	REGULAR 2											
	Less Than 16				16 - 23.99				24 or more			
College	70	N	71	N	70	N	71	N	70	N	71	N
Manhattan	87%	8	-%	4	90%	21	75%	12	100%	70	100%	52
Kingsborough	-	5	85	13	100	11	86	14	100	76	98	104
NYCCC	80	10	82	11	79	38	78	18	95	147	95	120
Queensboro	87	23	76	41	85	62	94	79	99	133	98	136
Staten Island	64	14	92	26	75	28	88	41	96	198	97	157
Total	82	60	83	95	84	160	88	164	97	624	97	569

Table 4.17

Comparison of 1970 and 1971 Freshmen: One Year Cumulative Credit Ratio in Relation to Credits Attempted in First Year (Percent with Credit Ratio of .75 or Better): Community Colleges

	NO HIGH SCHOOL AVERAGE											
	Less Than 16				16 - 23.99				24 or more			
College	70	N	71	N	70	N	71	N	70	N	71	N
Manhattan	58%	24	-%	5	81%	27	-%	5	100%	53	100%	10
Kingsborough	95	39	64	11	100	22	78	27	100	48	85	13
NYCCC	53	38	-	6	58	48	-	6	88	50	73	11
Queensboro	71	34	-	2	79	38	-	0	93	30	-	0
Staten Island	31	13	-	6	56	25	62	8	70	66	-	5
Total	67	148	43	30	72	160	72	46	89	247	85	39

In summary the credit load data furnish rather few instances suggesting that restricted credit loads improve academic performance. However, we repeat what has already been noted for the case of senior college students: these analyses require greater refinement before deriving any implications for policy. In particular, the fact that students take fewer credits is not, in itself, proof of assignment to restricted credit loads. In this respect, students may be self selecting. If true, then students who take fewer credits may also be less motivated. If less motivated, they may do less well academically. In short, both reduced credit load and lower academic performance may be explained in terms of lower motivation.

Compensatory Programs and Retention

The relationship between remediation in the first term of the freshman year and one semester retention is portrayed in table 4.18. For the community colleges as a group, open admissions students (level B and level A) who took remediation were as likely or more likely to return for their second semester than students who took none. Regular 1 students (1970 cohort) who took one remedial course had about the same retention rates as their counterparts who took none. For the 1971 cohort, both remedial groups did as well as the non-remedials. Among regular 2 students, those who took two or more remedial courses had slightly lower retention rates than those who took no remediation.

Some colleges depart from this pattern. Among level B students at Queensborough, those who took two or more remedial courses in 1970 had a slightly lower retention rate than those who took no remediation. Among level A's at NYCCC in 1971, those who took remediation had slightly lower retention rates than those who did not. At Queensborough for 1971, those who took one remedial course had a lower retention rate than those who took two courses and those who took none.

Among regular 1 students at NYCCC, both remedial groups in 1970, had lower retention rates than the non-remedials. Again, this was not true for the 1971 freshmen. At Queensborough in 1970, remedial students had lower retention rates than non-remedials. In 1971 those who took two or more remedial courses had a lower rate than those who took none.

In summary, the evidence for the most part leads to the conclusion that the remedial experience increased the retention rate. At several colleges this was more likely to happen for the 1971 cohort than for the 1970 group.

Data pertaining to retention rates in relation to first semester credit load are presented in table 4.19. For the community colleges as a group, reduced credit load in the first term does not lead to higher retention. However, level B and level A students who took moderately restricted credit loads (8-11.99 credits), had retention rates almost as high as those attempting 12 or more credits.

Table 4.18

Comparison of 1970 & 1971 Freshmen: Retention Rates After One Semester in Relation to First Semester Remediation (Community Colleges).

Level B

	No Rem.				One Rem.				2+ Rem.			
College	70	N	71	N	70	N	71	N	70	N	71	N
Kingsborough	79%	356	78%	238	82%	354	84%	169	95%	22	90%	29
NYCCC	82	298	71	225	82	44	71	69	80	225	82	77
Staten Island	60	172	73	275	81	98	78	156	74	111	78	72
Queensborough	75	204	68	98	75	229	83	138	70	370	76	238
Total	76	1030	74	836	80	725	80	532	75	728	78	416

Level A

	No Rem.				One Rem.				2+ Rem.			
College	70	N	71	N	70	N	71	N	70	N	71	N
Kingsborough	83 %	334	83 %	338	89 %	316	83 %	195	98 %	41	89 %	44
NYCCC	83	342	78	261	81	48	73	60	80	166	71	65
Staten Island	64	317	82	402	85	143	80	125	79	112	90	20
Queensborough	77	385	80	372	79	296	74	231	79	339	80	250
Total	77	1378	81	1373	84	803	83	611	80	658	80	379

Comparison of 1970 & 1971 Freshmen: Retention Rates After One Semester in Relation to First Semester Remediation (Community Colleges).

Regular 1

	No Rem.				One Rem.				2+ Rem.			
College	70	N	71	N	70	N	71	N	70	N	71	N
Kingsborough	84%	247	85%	299	92%	113	91%	120	67%	9	93%	27
NYCCC	87	291	78	198	81	31	79	38	81	75	85	34
Staten Island	83	298	86	297	81	92	79	94	84	50	-	5
Queensborough	83	427	85	449	75	212	84	182	69	151	78	148
Total	84	1263	84	1243	81	448	84	434	75	285	82	214

Regular 2

	No Rem.				One Rem.				2+ Rem.			
College	70	N	71	N	70	N	71	N	70	N	71	N
Kingsborough	94%	66	85%	112	82%	33	92%	36	-%	3	-%	4
NYCCC	89	170	82	152	88	17	76	17	91	33	65	17
Staten Island	81	245	87	228	91	32	84	31	75	20	-	1
Queensborough	74	192	86	212	68	74	77	70	61	51	81	27
Total	82	673	86	704	78	156	82	154	74	107	78	49

Table 4.18

Comparison of 1970 & 1971 Freshmen: Retention Rates After One Semester in Relation to First Semester Remediation (Community Colleges).

No High School Average

	No Rem.				One Rem.				2+ Rem.			
College	70	N	71	N	70	N	71	N.	70	N	71	N
Kingsborough	33 %	207	60 %	30	39 %	108	63 %	49	56 %	9	- %	5
NYCCC	78	85	86	14	83	18	-	6	77	87	76	17
Staten Island	30	238	75	8	69	29	73	11	67	24	-	6
Queensborough	58	65	-	1	61	44	-	-	63	76	37	8
Total	41	595	68	53	52	199	61	66	69	196	67	36

In every case students attempting less than 8 credits had retention rates substantially lower than the rates for students attempting more than this amount.

In summary, the evidence suggests that the remedial experience increases the likelihood that a student will return for his second semester. However, the same cannot be said for the policy of restricted credit load.

TABLE 4.19

Comparison of 1970 and 1971 Freshmen: Retention Rates After One Semester in Relation To First Semester Credits Attempted (Community Colleges)

	LEVEL B											
	Less Than 8				8-11.99				12 or More			
College	70	N	71	N	70	N	71	N	70	N	71	N
Manhattan	37 %	94	51 %	76	76 %	84	88 %	59	90 %	113	98 %	112
Kingsborough	63	309	44	101	94	174	91	110	94	249	93	225
N.Y.C.C.C.	60	212	50	149	92	95	83	72	95	260	91	150
Queensborough	65	481	73	278	84	187	77	131	84	135	88	65
Staten Island	54	99	63	160	74	135	82	148	75	147	80	195
Total	61	1,195	60	764	85	675	84	520	89	904	90	747

TABLE 4.19

Comparison of 1970 and 1971 Freshmen: Retention Rates After One Semester in Relation To First Semester Credits Attempted (Community Colleges)

	LEVEL A											
	Less Than 8				8-11.9				12 or More			
College	70	N	71	N	70	N	71	N	70	N	71	N
Manhattan	34 %	77	46 %	72	75 %	94	89 %	47	86 %	153	93 %	136
Kingsborough	57	187	36	84	95	152	83	96	99	352	94	397
N.Y.C.C.C.	52	170	41	123	90	92	85	66	97	294	95	197
Queensborough	63	456	68	309	90	311	84	285	92	253	85	259
Staten Island	45	132	67	123	85	172	90	184	77	268	84	240
Total	56	1,022	57	711	88	821	86	678	91	1,320	90	1,229

TABLE 4.19

Comparison of 1970 and 1971 Freshmen: Retention Rates After One Semester in Relation To First Semester Credits Attempted (Community Colleges)

	REGULAR I											
	Less Than 8				8-11.9				12 or More			
College	70	N	71	N	70	N	71	N	70	N	71	N
Manhattan	26 %	43	52 %	29	82 %	55	79 %	33	80 %	164	94 %	83
Kingsborough	39	61	52	62	94	69	91	64	96	239	93	320
N.Y.C.C.C.	51	84	44	77	90	52	79	38	96	261	97	155
Queensborough	55	269	72	232	83	225	87	223	95	296	89	324
Staten Island	54	57	70	69	87	112	82	123	87	271	92	204
Total	50	514	63	469	86	513	85	481	92	1,231	92	1,086

TABLE 4.19

Comparison of 1970 and 1971 Freshmen: Retention Rates After One Semester in Relation To First Semester Credits Attempted (Community Colleges)

	REGULAR 2											
	Less Than 8				8-11.9				12 or More			
College	70	N	71	N	70	N	71	N	70	N	71	N
Manhattan	26%	19	30%	10	89%	27	94%	16	82%	85	96%	52
Kingsborough	-	6	43	23	92	12	69	13	95	84	97	116
N.Y.C.C.C.	65	31	32	41	86	35	100	19	95	154	93	126
Queensborough	36	100	64	76	73	81	85	76	94	136	92	157
Staten Island	43	35	72	50	87	47	91	65	86	215	90	145
Total	40	191	55	200	82	202	88	189	90	674	93	596

TABLE 4.19

Comparison of 1970 and 1971 Freshmen: Retention Rates After One Semester in Relation To First Semester Credits Attempted (Community Colleges)

	NO HIGH SCHOOL AVERAGE											
	Less Than 8				8-11.9				12 or More			
College	70	N	71	N	70	N	71	N	70	N	71	N
Manhattan	25%	65	59%	17	48%	87	- %	4	42%	113	90%	10
Kingsborough	27	150	32	31	37	64	67	33	45	110	100	20
N.Y.C.C.C.	66	91	50	16	88	34	80	10	89	65	91	11
Queensborough	50	111	33	9	78	37	-	0	76	37		
Staten Island	19	75	-	4	30	84	80	15	51	132	-	6
Total	38	492	43	77	49	306	74	62	55	457	94	47

SOPHOMORE YEAR ACADEMIC PERFORMANCE IN RELATION TO FRESHMEN YEAR COMPENSATORY EXPERIENCE

Introduction

The previous analyses are subject to certain limitations. First, the positive effects of first year compensatory experience might not have made themselves fully visible during that time period. It might be unrealistic to expect that the benefits of any "treatment" would be manifest at the time the treatment was occurring. Second, even if such benefits were visible (and we have seen them), there is the question of whether they are durable. Moreover, there is a further limitation which may have occurred for the one year analyses, although we have not yet assessed the possibility: the content of non-remedial courses taken by remedial students in the freshman year may have differed from the courses taken by the non-remedial students. That is, the former may have taken "easier" courses. This is less likely to happen (indeed, if it did at all in the freshman year) during the sophomore year.

For the above reasons,it is appropriate to assess the relationship between first year compensatory experience and academic performance in the second year. We now present these analyses.

Analyses for Senior Colleges

1. Freshman Remedial Experience in Relation to Sophomore Academic Performance. The relationship between remedial experience in the freshman year and sophomore year GPA is presented in table 4.20. For level B students the overall senior college findings indicate that students who had remedial work in the freshman year were less likely than the non-remedial group to

earn a sophomore year GPA of 2.00 or better. Individual college comparisons are not appropriate, since only small numbers of students are involved.

For level A.1 students, there is also no case in which any remedial group did as well as the non-remedial group in the second year. However, those who took remediation in the fall only do almost as well as the non-remedials. Among individual colleges, remedial students (fall only) at Baruch, City College, and Lehman did as well or better than their non-remedial counterparts. However, those who took remediation in both terms of their freshman year did considerably worse than the non-remedial group.

The findings noted above for level A.1 students also hold for level A.2 students. Among the individual colleges, we note that students who took remediation in both terms at Baruch were as likely as the non-remedials to earn a C average in their second year. At Queens those who took remediation in the fall only were as likely to earn a C as the non-remedials. In all other cases the remedial groups do not perform as well as their non-remedial counterparts, although the differences are not large.

For the senior colleges as a whole, regular students who did not take remediation did slightly better than those who took remediation in the fall only. Again, some colleges depart from the overall findings. Students at Baruch and York who took remediation in the fall only did as well or better on GPA as their non-remedial peers. In addition those who took remediation for both terms at York did about as well as the non-remedial group.

Table 4.20

Sophomore Year Grade Point Average in Relation to First Year Remediation (Percent Earning 2.00 or Better)

Senior Colleges

	Level B							
	No. Rem.		Rem. Fall Only		Rem. Spring Only		Rem. Both Terms	
College	%	N	%	N	%	N	%	N
Baruch	-	2	30	10	-	1	24	33
Brooklyn	32	19	-	3	-	1	-	3
City College	25	8	-	1	0	9	27	11
Hunter	11	9	25	16	-	-	-	2
Lehman	50	8	12	16	-	1	25	16
Queens	-	1	-	1	-	-	-	-
York	-	7	12	16	-	1	7	28
TOTAL	33	54	22	63	0	13	18	93

Table 4.20
Sophomore Year Grade Point Average in Relation to First Year Remediation (Percent Earning 2.00 or Better)
Senior Colleges

	Level A.1							
	No. Rem.		Rem. Fall Only		Rem. Spring Only		Rem. Both Terms	
College	%	N	%	N	%	N	%	N
Baruch	44	27	48	29	-	4	33	79
Brooklyn	38	114	27	15	-	6	-	4
City College	45	42	56	41	19	16	25	69
Hunter	57	75	39	82	-	3	33	15
Lehman	53	62	55	64	-	3	19	21
Queens	-	6	31	16	-	1	11	9
York	58	26	23	31	-	2	34	56
TOTAL	48	352	43	278	34	35	29	253

Table 4.20
Sophomore Year Grade Point Average in Relation to First Year Remediation (Percent Earning 2.00 or Better)
Senior Colleges

	Level A.2							
	No. Rem.		Rem. Fall Only		Rem. Spring Only		Rem. Both Terms	
College	%	N	%	N	%	N	%	N
Baruch	57	127	51	47	-	4	55	136
Brooklyn	55	400	49	37	60	10	-	2
City College	56	153	51	69	46	28	35	166
Hunter	66	211	60	186	-	7	0	12
Lehman	68	325	52	89	29	14	53	17
Queens	57	96	59	165	33	9	46	46
York	59	105	50	72	-	4	41	73
TOTAL	60	1417	55	665	39	76	43	452

Table 4.20
Sophomore Year Grade Point Average in Relation to First Year Remediation (Percent Earning 2.00 or Better)
Senior Colleges

	Regular							
	No. Rem.		Rem. Fall Only		Rem. Spring Only		Rem. Both Terms	
College	%	N	%	N	%	N	%	N
Baruch	82	174	80	49	-	3	72	96
Brooklyn	80	2376	-	7	80	10	-	2
City College	75	790	69	124	68	34	54	162
Hunter	78	997	66	248	-	6	36	11
Lehman	88	564	73	62	73	11	-	7
Queens	84	936	78	937	70	54	64	105
York	67	40	78	23	-	2	64	14
TOTAL	80	5877	75	1450	71	120	61	397

Table 4.20
Sophomore Year Grade Point Average in Relation to First Year Remediation (Percent Earning 2.00 or Better)
Senior Colleges

	No High School Average							
	No. Rem.		Rem. Fall Only		Rem. Spring Only		Rem. Both Terms	
College	%	N	%	N	%	N	%	N
Baruch	-	-	-	-	-	-	-	-
Brooklyn	59	102	-	2	-	3	-	2
City College	-	1	-	-	-	-	-	-
Hunter	76	38	62	16	-	-	-	1
Lehman	58	24	-	5	-	1	-	5
Queens	89	9	89	9	-	3	-	3
York	-	5	-	7	-	1	37	8
TOTAL	65	179	67	39	25	8	37	19

During the freshman year, students taking remediation would not be expected to earn credits at the same rate as non-remedial students. This is due to the fact that most remedial courses carry little or no credit. For this reason, the earlier one year analyses did not consider remediation in relation to credit generation. However, during the sophomore year it becomes appropriate to consider whether remedial students begin to earn credits in a manner comparable to non-remedial students. Table 4.21 presents the findings. For level B students, those who took remediation in the fall only were about as likely to earn 24 or more credits during their second year as those who took no remediation at all. However, those who took remediation for both terms were less likely to earn this many credits. Since the number of students involved at individual campuses is rather small, comparisons are inappropriate.

For level A.1 students, we see that non-remedial students were more likely to earn 24 or more credits than remedial students. However, these overall findings mask the apparent successes occurring on some campuses. Noteworthy are City College and York College. At City College those who took remedial courses in the fall were more likely to earn 24 credits than those who took no remedial work. At York those who took remedial courses in the fall and in both terms exceeded the non-remedial group in credit generation.

For level A. 2 students, the senior college aggregate data do not indicate that any remedial category did as well as the non-remedial group. Again, however, individual colleges depart from the overall pattern. At Baruch,students who took remedial courses for both semesters of their freshman year were about as likely to earn 24 credits as their non-remedial counterparts. This was also true at York. At both City College and Queens, students who took remedial work in the fall only were as likely to earn 24 credits as the non-remedial group.

The data for regular students assume the same pattern noted for every other category: remedial students are less likely to generate 24 credits than the non-remedials. However, at City College and Lehman, those who took remediation in the fall only are almost as likely to generate credits at the rate of the non-remedial group.

Table 4.22 presents data for credit ratio. For the senior colleges as a whole and for every level of high school average,the evidence suggests that some categories of remedial students are as likely,or more likely than non-remedial students to earn 75% of the credits which they attempted in the sophomore year.

For level A.1 students, York stands out as the college where remedial students,were most likely to outperform their

Table 4.21
Sophomore Year Credits Earned In Relation to First Year Remediation (Percent Earning 24 or More Credits): Senior Colleges-1970 Freshmen

Level B

	No Rem		Rem Fall Only		Rem Spring Only		Rem Both Terms	
College	%	N	%	N	%	N	%	N
Baruch	-	2	30	10	-	1	27	33
Brooklyn	37	19	-	3	-	1	-	3
City College	37	8	-	1	0	9	18	11
Hunter	11	9	12	16	-	-	-	2
Lehman	25	8	37	16	-	1	44	16
Queens	-	1	-	1	-	-	-	-
York	-	7	37	16	-	1	14	28
Total	33	54	30	63	0	13	24	93

Level A.1

	No Rem		Rem Fall Only		Rem Spring Only		Rem Both Terms	
College	%	N	%	N	%	N	%	N
Baruch	44	27	34	29	-	4	37	79
Brooklyn	50	114	27	15	-	6	-	4
City College	45	42	51	41	12	16	36	69
Hunter	35	75	17	82	-	3	20	15
Lehman	56	62	50	64	-	3	38	21
Queens	-	6	44	16	-	1	11	9
York	38	26	64	31	-	2	46	56
Total	46	352	39	278	29	35	37	253

Table 4.21

Sophomore Year Credits Earned in Relation to First Year Remediation (Percent Earning 24 or More Credits): Senior Colleges-1970 Freshmen

Level A.2

	No Rem		Rem Fall Only		Rem Spring Only		Rem Both Terms	
College	%	N	%	N	%	N	%	N
Baruch	56	127	49	47	-	4	53	136
Brooklyn	62	400	54	37	50	10	-	2
City College	57	153	55	69	46	28	35	166
Hunter	46	211	38	186	-	7	17	12
Lehman	71	325	60	89	29	14	41	17
Queens	52	96	51	165	22	9	41	46
York	55	105	50	72	-	4	51	73
Total	59	1417	49	665	35	76	43	452

Regular

	No Rem		Rem Fall Only		Rem Spring Only		Rem Both Terms	
College	%	N	%	N	%	N	%	N
Baruch	80	174	67	49	-	3	59	96
Brooklyn	81	2376	-	7	80	10	-	2
City College	66	790	61	124	47	34	46	162
Hunter	69	997	59	248	-	6	18	11
Lehman	82	564	77	62	54	11	-	7
Queens	76	936	73	937	72	54	65	105
York	70	40	52	23	-	2	43	14
Total	76	5877	69	1450	60	120	54	397

Table 4.21
Sophomore Year Credits Earned In Relation to First Year Remediation (Percent Earning 24 or More Credits): Senior Colleges-1970 Freshmen

No High School Average

	No Rem		Rem Fall Only		Rem Spring Only		Rem Both Terms	
College	%	N	%	N	%	N	%	N
Baruch	-	0	-	0	-	0	-	0
Brooklyn	64	102	-	2	-	3	-	2
City College	-	1	-	0	-	0	-	0
Hunter	39	38	50	16	-	0	-	1
Lehman	67	24	-	5	-	1	-	5
Queens	67	9	44	9	-	3	-	3
York	-	5	-	7	-	1	50	8
Total	59	179	54	39	25	8	47	19

non-remedial counterparts. At Hunter the "fall only" group did about as well as the non-remedials.

For level A.2 students the noteworthy campuses are City College, Hunter, Queens, and York. Among this group, York is again the leader in that the students who took remediation in both terms (as well as those who took it in the fall only) were as likely to earn a .75 credit ratio as the non-remedial category. Among regular students, the remedial group did as well as the non-remedial group on most campuses. The intensive remedial group (who took it in both terms) approximated the performance of the non-remedials at Baruch and York.

In summary, it is apparent that the overall senior college findings are somewhat misleading. They mask what appear to be successes on several campuses. Particularly at Baruch, York, and City College, it appears that the remedial experience of the freshman year generated visible effects on academic achievement during the sophomore year. Furthermore, there are some instances in which the performance of remedial students not only exceeded the performance of non-remedials at the same level of high school average; it also exceeded the performance of students at higher levels of high school average.

2. Reduced Credit Load and Sophomore Academic Performance We now consider whether credit load restrictions in the freshman year increase the levels of academic performance in the sophomore year. Table 4.23 presents the data for grade point average.

TABLE 4.22

Sophomore Year Credit Ratio in Relation to First Year Remediation (Percent Earning .75 or More Credit Ratio)
Senior Colleges - 1970 Freshmen
Level B

	No. Rem.		Rem. Fall Only		Rem. Spring Only		Rem. Both Terms	
College	%	N	%	N	%	N	%	N
Baruch	-	2	70	10	-	1	70	33
Brooklyn	53	19	-	3	-	1	-	3
City College	75	8	-	1	56	9	45	11
Hunter	33	9	50	16	-	0	-	2
Lehman	75	8	87	16	-	1	62	16
Queens	-	1	-	1	-	0	-	0
York	-	7	75	16	-	1	43	28
Total	63	54	70	63	46	13	55	93

Level A.1

	No. Rem.		Rem. Fall Only		Rem. Spring Only		Rem. Both Terms	
College	%	N	%	N	%	N	%	N
Baruch	81	27	76	29	-	4	68	79
Brooklyn	64	114	47	15	50	6	-	4
City College	81	42	68	41	19	16	72	69
Hunter	59	75	56	82	-	3	47	15
Lehman	84	62	78	64	-	3	67	21
Queens	67	6	62	16	-	1	22	9
York	69	26	81	31	-	2	70	56
Total	70	352	68	278	46	35	66	253

TABLE 4.22

Sophomore Year Credit Ratio in Relation to First Year Remediation (Percent Earning .75 or More Credit Ratio)
Senior Colleges - 1970 Freshmen
Level A.2

	No. Rem.		Rem. Fall Only		Rem. Spring Only		Rem. Both Terms	
College	%	N	%	N	%	N	%	N
Baruch	82	127	74	47	-	4	78	136
Brooklyn	79	400	68	37	80	10	-	2
City College	76	153	80	69	64	28	64	166
Hunter	70	211	74	186	43	7	33	12
Lehman	86	325	81	89	71	14	65	17
Queens	72	96	72	165	56	9	61	46
York	80	105	79	72	-	4	77	73
Total	79	1,417	75	665	67	76	69	452

Regular

	No. Rem.		Rem. Fall Only		Rem. Spring Only		Rem. Both Terms	
College	%	N	%	N	%	N	%	N
Baruch	91	174	90	49	-	3	87	96
Brooklyn	92	2,376	86	7	100	10	-	2
City College	88	790	88	124	88	34	81	162
Hunter	85	997	81	248	67	6	36	11
Lehman	92	564	90	62	82	11	86	7
Queens	87	936	88	937	85	54	74	105
York	90	40	96	23	-	2	86	14
Total	89	5,877	87	1,450	86	120	80	397

TABLE 4.22

Sophomore Year Credit Ratio in Relation to First Year Remediation (Percent Earning .75 or More Credit Ratio)
Senior Colleges - 1970 Freshmen
No High School Average

College	No. Rem.		Rem. Fall Only		Rem. Spring Only		Rem. Both Terms	
	%	N	%	N	%	N	%	N
Baruch	-	0	-	0	-	0	-	0
Brooklyn	71	102	-	2	-	3	-	2
City College	-	1	-	0	-	0	-	0
Hunter	71	38	69	16	-	0	-	1
Lehman	79	24		5	-	1	-	5
Queens	78	9	67	9	-	3	-	3
York	-	5	100	7	-	1	87	8
Total	73	179	74	39	25	8	79	19

For the senior colleges as a whole and for all levels of high school average, there is no case in which students on reduced credit loads perform as well as those taking full loads. However, there are some instances (for level B and level A.1 students) in which those on drastically reduced loads (less than eight credits attempted) do as well as those on moderately restricted loads (8-11.99 credits).

The data for individual colleges disclose instances in which reduced credit load restrictions seem to have been effective. For level A.1 students at City College, those on moderate credit load restrictions did almost as well as those who were not restricted. At Hunter those who were on extreme credit load restriction did as well as those who were not restricted. The same is true at York. Among regular students, those at Hunter who were on drastically restricted credit loads performed as well as those on moderately restricted credit loads.

Data for credit generation in the sophomore year are presented in table 4.24. For the senior colleges as a whole, there is only one effect to be noted: level B students who registered for less than 8 credits were somewhat more likely to earn 24 or more credits in their sophomore year than those who initially attempted 8-11.99 credits.

Individual colleges show some effects. Level A.1 students who attempted 8-11.99 credits in their freshman year at City

Table 4.23
Sophomore Year GPA in Relation to Credits Registered in Fall 1970 Semester (Percent Above 2.00 GPA) Senior Colleges -- 1970 Freshmen

Level B

	Less Than 8		8 - 11.99		12 or More	
College	%	N	%	N	%	N
Baruch	23	13	15	20	54	13
Brooklyn	-	1	25	8	35	17
City College	11	9	33	9	9	11
Hunter	-	5	0	7	33	15
Lehman	-	2	25	8	26	31
Queens	-	-	-	1	-	1
York	11	9	5	19	21	24
Total	13	39	15	72	29	112

Level A.1

	Less Than 8		8 - 11.99		12 or More	
College	%	N	%	N	%	N
Baruch	19	21	38	58	48	60
Brooklyn	-	4	20	20	41	115
City College	32	22	35	43	39	103
Hunter	50	18	36	50	51	107
Lehman	-	6	29	14	50	130
Queens	20	10	0	10	58	12
York	40	10	25	32	41	73
Total	33	91	31	227	45	600

Table 4.23
Sophomore Year GPA in Relation to Credits Registered in Fall 1970 Semester (Percent Above 2.00 GPA)
Senior Colleges -- 1970 Freshmen
Level A.2

	Less Than 8		8 - 11.99		12 or More	
College	%	N	%	N	%	N
Baruch	9	22	50	98	63	194
Brooklyn	-	7	42	45	56	397
City College	35	20	37	100	50	296
Hunter	43	30	57	89	63	297
Lehman	-	3	61	13	62	429
Queens	33	39	47	98	66	179
York	36	11	46	56	53	187
Total	35	132	47	499	59	1979

Regular

	Less Than 8		8 - 11.99		12 or More	
College	%	N	%	N	%	N
Baruch	58	12	67	60	83	250
Brooklyn	56	18	64	86	81	2291
City College	38	26	55	123	74	961
Hunter	64	45	65	126	77	1091
Lehman	-	5	67	15	86	624
Queens	45	75	62	315	85	1642
York	-	4	87	8	67	67
Total	52	185	63	733	81	6926

Table 4.23

Sophomore Year GPA in
Relation to Credits Registered in
Fall 1970 Semester (Percent Above 2.00 GPA)
Senior Colleges -- 1970 Freshmen
No High School Average

	Less Than 8		8 - 11.99		12 or More	
College	%	N	%	N	%	N
Baruch	-	0	-	0	-	0
Brooklyn	-	2	30	10	59	97
City College	-	1	-	-	-	0
Hunter	-	5	50	8	76	42
Lehman	-	1	-	2	53	32
Queens	-	2	-	6	94	16
York	-	1	-	5	73	15
Total	58	12	39	31	65	202

College were as likely to generate 24 credits in their sophomore year as those who were not on restricted credit load. This was also true at York. For level A.2 students, the only effects are to be noted at City College where those who attempted less than 8 credits in the freshman year generated credits at the same rate in the sophomore year as those who attempted 8-11.99 credits.

Analyses for credit ratio are presented in table 4.25. The overall senior college data for all high school average categories indicate no positive effects of reduced credit load. However, for level A.1 students at Baruch, those who began with moderate credit load restrictions (8-11.99 credits) did as well in their sophomore year as those who were not restricted. The same is true for level A.2 students at Baruch and York.

Results for Community Colleges

1. Freshman Remedial Experience and Sophomore Academic Performance. Results for grade point average are presented in table 4.26. The overall findings indicate that freshman year remediation has effects on sophomore year grade point average only for level B students.

Individual colleges frequently depart from the overall trend. We note first that for level B students, the performance of every remedial category at Kingsborough exceeds the performance of the non-remedial group. At Staten Island those who took

Table 4.24

Sophomore Year Credits Earned in
Relation to Credits Registered in
Fall 1970 Semester (Percent with 24 or More Credits)
Senior Colleges -- 1970 Freshmen
Level B

	Less Than 8		8 - 11.99		12 or More	
College	%	N	%	N	%	N
Baruch	31	13	20	20	38	13
Brooklyn	-	1	0	8	47	17
City College	11	9	11	9	27	11
Hunter	-	5	-	7	20	15
Lehman	-	2	62	8	32	31
Queens	-	-		1	-	1
York	44	9	10	19	33	24
Total	23	39	17	72	34	112

Level A.1

	Less Than 8		8 - 11.99		12 or More	
College	%	N	%	N	%	N
Baruch	10	21	36	58	48	60
Brooklyn	-	4	30	20	51	115
City College	32	22	44	43	40	103
Hunter	11	18	20	50	30	107
Lehman	-	6	21	14	53	130
Queens	20	10	10	10	67	12
York	30	10	50	32	52	73
Total	24	91	33	227	46	600

Table 4.24

Sophomore Year Credits Earned in Relation to Credits Registered in Fall 1970 Semester (Percent with 24 or More Credits)
Senior Colleges -- 1970 Freshmen
Level A.2

	Less Than 8		8 - 11.99		12 or More	
College	%	N	%	N	%	N
Baruch	32	22	50	98	58	194
Brooklyn	-	7	51	45	62	397
City College	35	20	32	100	53	296
Hunter	17	30	33	89	46	297
Lehman	-	3	46	13	66	429
Queens	18	39	48	98	56	179
York	27	11	45	56	55	187
Total	27	132	42	499	58	1979

Regular

	Less Than 8		8 - 11.99		12 or More	
College	%	N	%	N	%	N
Baruch	33	12	55	60	77	250
Brooklyn	39	18	66	86	82	2291
City College	23	26	43	123	66	961
Hunter	29	45	48	126	70	1091
Lehman	-	5	60	15	82	624
Queens	40	75	58	315	79	1642
York	-	4	37	8	63	67
Total	35	185	54	733	77	6926

Table 4.24
Sophomore Year Credits Earned in Relation to Credits Registered in Fall 1970 Semester (Percent with 24 or More Credits)
Senior Colleges -- 1970 Freshmen
No High School Average

	Less Than 8		8 - 11.99		12 or More	
College	%	N	%	N	%	N
Baruch	-	-	-	-	-	0
Brooklyn	-	2	40	10	65	97
City College	-	1	-	-	-	-
Hunter	-	5	12	8	48	42
Lehman	-	1	-	2	59	32
Queens	-	2	-	6	69	16
York	-	1	-	5	67	15
Total	25	12	35	31	61	202

Table 4.25

Sophomore Year Credit Ratio in Relation to Credits Registered in Fall 1970 Semester (Percent with .75 or Better) Senior Colleges -- 1970 Freshmen

Level B

	Less than 8		8 -- 11.99		12 or more	
COLLEGE	%	N	%	N	%	N
Baruch	54	13	70	20	85	13
Brooklyn	--	1	50	8	59	17
City College	44	9	44	9	73	11
Hunter	--	5	--	7	60	15
Lehman	--	2	75	8	74	31
Queens	--	--	--	1	--	1
York	56	9	53	19	67	24
TOTAL	46	39	54	72	70	112

Level A.1

	Less than 8		8 -- 11.99		12 or more	
COLLEGE	%	N	%	N	%	N
Baruch	67	21	76	58	73	60
Brooklyn	--	4	45	20	64	115
City College	55	22	67	43	72	103
Hunter	44	18	46	50	63	107
Lehman	--	6	50	14	82	130
Queens	30	10	30	10	83	12
York	60	10	66	32	78	73
TOTAL	55	91	60	227	72	600

Table 4.25

Sophomore Year Credit Ratio in
Relation to Credits Registered in Fall 1970 Semester
(Percent with .75 or Better)
Senior Colleges -- 1970 Freshmen
Level A.2

	Less than 8		8 -- 11.99		12 or more	
COLLEGE	%	N	%	N	%	N
Baruch	55	22	79	98	82	194
Brooklyn	--	7	62	45	80	397
City College	50	20	56	100	78	296
Hunter	60	30	60	89	74	297
Lehman	--	3	69	13	84	429
Queens	44	39	66	98	78	179
York	73	11	80	56	79	187
TOTAL	55	132	67	499	80	1979

Regular

	Less than 8		8 -- 11.99		12 or more	
COLLEGE	%	N	%	N	%	N
Baruch	67	12	82	60	93	250
Brooklyn	61	18	86	86	92	2291
City College	46	26	77	123	89	961
Hunter	62	45	78	126	86	1091
Lehman	--	5	80	15	92	624
Queens	57	75	75	315	90	1642
York	--	4	87	8	91	67
TOTAL	58	189	78	733	90	6926

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Table 4.25

Sophomore Year Credit Ratio in Relation to Credits Registered in Fall 1970 Semester (Percent with .75 or Better) Senior Colleges -- 1970 Freshmen No High School Average

	Less than 8		8 -- 11.99		12 or more	
COLLEGE	%	N	%	N	%	N
Baruch	--	0	--	0	--	0
Brooklyn	--	2	40	10	71	97
City College	--	1	--	0	--	0
Hunter	--	5	50	3	74	42
Lehman	--	1	--	2	78	32
Queens	--	2	--	6	87	16
York	--	1	--	5	93	15
TOTAL	50	12	55	31	76	202

remediation in the fall only were about as likely to earn a C average in their second year as those who took no remediation.

For level A students, Kingsborough is again noteworthy in that students who took remediation in their freshman year (in the fall only or for both terms) did as well or better than the non-remedial group in the sophomore year. At Queensborough students who took remediation in the fall only do almost as well as those who took no remedial work.

For regular 1 students, Kingsborough again stands out. Its remedial students did as well or better than the non-remedial group. Students at Staten Island who took remediation in the fall only performed as well during the second year as those who took no remediation.

Individual college effects for regular 2 students are not apparent, except for Kingsborough where the fall remedial group did as well as the non-remedials.

Table 4.27 presents the data for credit generation in the sophomore year. For level B students the performance of the non-remedial group was approximated by students who took remediation in the fall only and in the spring only. However, at Kingsborough every remedial group equals the credit earning performance of the non-remedial group (since the remedials and non-remedials were similar in OAT scores, this may not be necessarily an effect of remediation). At Queensborough those who took remediation in the fall only were more likely

Table 4.26

Sophomore Year GPA in Relation to First Year Remediation (Percent Earning 2.00 or Better)
Community Colleges
1970 Freshmen

Level B

College	No Rem.		Rem Fall Only		Rem Spring Only		Rem Both Terms	
	%	N	%	N	%	N	%	N
Kingsborough	30	129	37	117	40	42	43	97
NYCCC	47	154	37	86	-	6	12	48
Queensborough	37	71	32	134	-	4	22	101
Staten Island	54	50	51	89	30	10	-	6
TOTAL	41	404	38	426	36	62	28	252

Level A

College	No Rem		Rem Fall Only		Rem Spring Only		Rem Both Terms	
	%	N	%	N	%	N	%	N
Kingsborough	48	166	61	101	41	34	51	125
NYCCC	64	183	44	80	60	10	34	41
Queensborough	55	183	50	225	-	5	33	84
Staten Island	66	132	48	125	-	2	46	13
TOTAL	58	664	51	531	48	51	43	263

Table 4.26

Sophomore Year GPA in Relation to First Year Remediation (Percent Earning 2.00 or Better) Community Colleges 1970 Freshmen

Regular 1

College	No Rem		Rem Fall Only		Rem Spring Only		Rem Both Terms	
	%	N	%	N	%	N	%	N
Kingsborough	72	132	73	49	77	35	69	39
NYCCC	77	195	53	45	22	9	22	18
Queensborough	73	241	61	136	-	7	39	33
Staten Island	71	181	72	69	-	4	25	8
TOTAL	74	749	64	299	66	55	47	98

Regular 2

College	No Rem		Rem Fall Only		Rem Spring Only		Rem Both Terms	
	%	N	%	N	%	N	%	N
Kingsborough	84	37	85	20	100	8	-	6
NYCCC	86	113	72	18	50	8	45	11
Queensborough	93	107	79	47	-	2	75	8
Staten Island	86	141	81	31	-	4	-	1
TOTAL	88	398	79	116	65	22	69	26

Table 4.26
Sophomore Year GPA in Relation to First Year Remediation (Percent Earning 2.00 or Better)
Community Colleges
1970 Freshman
No High School Average

	No Rem		Rem Fall Only		Rem Spring Only		Rem Both Terms	
College	%	N	%	N	%	N	%	N
Kingsborough	58	26	43	14	45	11	30	20
NYCCC	54	37	23	26	-	3	15	20
Queensborough	74	23	68	25	-	2	21	19
Staten Island	58	41	45	20	-	1	-	2
TOTAL	60	127	45	85	39	17	23	61

to earn twenty four credits in their sophomore year than those who took no remediation. This was also the case for Staten Island.

Level A students who took remediation in the fall or in the spring did at least as well as those who did not take it. The most outstanding college is again Kingsborough. At this school the students who took remediation in both terms outperformed the non-remedials and did as well as the other remedial categories. This was not the case for any other school. However,remedial effects were noted at other colleges. At NYCCC those who took remediation in the fall only were more likely to earn 24 credits than those who took no remediation. The "fall only" group at Queensborough and Staten Island were just as likely to earn 24 credits as sophomores as the non-remedial group.

Regular 1 students who took remediation in both terms at Kingsborough were about as likely to earn 24 credits as the non-remedial group. This was also true for Staten Island. At Queensborough those who took remediation in the fall only did as well as those who received no remedial work.

Credit ratio data are presented in table 4.28. For the community colleges as a group,level B students who took remediation in the first term of the freshman year were as likely to earn seventy five percent of credits attempted as those who took no remediation at all. Staten Island students exhibited the

TABLE 4.27

Sophomore Year Credits Earned in Relation to First Year Remediation (Percent Earning 24 or More Credits): Community Colleges

1970 Freshmen

Level B

	No. Rem.		Rem. Fall Only		Rem. Spring Only		Rem. Both Terms	
College	%	N	%	N	%	N	%	N
Kingsborough	44	129	44	117	45	42	43	97
N.Y.C.C.C.	53	154	43	86	--	6	29	48
Queensborough	22	71	28	134	--	4	11	101
Staten Island	24	50	38	89	30	10	--	6
Total	41	404	38	426	41	62	27	252

Level A

	No. Rem.		Rem. Fall Only		Rem. Spring Only		Rem. Both Terms	
College	%	N	%	N	%	N	%	N
Kingsborough	57	166	61	101	62	34	64	125
N.Y.C.C.C.	59	183	66	80	70	10	41	41
Queensborough	45	183	43	225	-	5	23	84
Staten Island	45	132	46	125	-	2	38	13
Total	52	664	51	531	65	51	46	263

TABLE 4.27

Sophomore Year Credits Earned in Relation to First Year Remediation (Percent Earning 24 or More Credits): Community Colleges

1970 Freshmen

Regular I

	No. Rem.		Rem. Fall Only		Rem. Spring Only		Rem. Both Terms	
College	%	N	%	N	%	N	%	N
Kingsborough	73	132	71	49	71	35	69	39
N.Y.C.C.C.	77	195	51	45	22	9	33	18
Queensborough	53	241	54	136	-	7	45	33
Staten Island	49	181	52	69	-	4	50	8
Total	62	749	56	299	59	55	53	98

Regular 2

	No. Rem.		Rem. Fall Only		Rem. Spring Only		Rem. Both Terms	
College	%	N	%	N	%	N	%	N
Kingsborough	78	37	85	20	100	8	-	6
N.Y.C.C.C.	88	113	78	18	50	8	64	11
Queensborough	78	107	74	47	-	2	75	8
Staten Island	63	141	55	31	-	4	-	1
Total	76	398	72	116	70	22	73	26

TABLE 4.27

Sophomore Year Credits Earned in Relation to First Year Remediation (Percent Earning 24 or More Credits): Community Colleges

1970 Freshmen

No High School Average

	No. Rem.		Rem. Fall Only		Rem. Spring Only		Rem. Both Terms	
College	%	N	%	N	%	N	%	N
Kingsborough	38	26	57	14	73	11	45	20
N.Y.C.C.C.	46	37	46	26	-	3	30	20
Queensborough	70	23	64	25	-	2	21	19
Staten Island	37	41	45	20	-	1	-	2
Total	46	127	53	85	56	17	31	61

strongest effects of remediation. Such effects are also apparent for Queensborough and NYCCC for the group which took remediation in the fall only.

For level A students, the group which took remediation in the fall only was just as likely to achieve a .75 credit ratio as the non-remedial students. NYCCC and Queensborough show such effects. Based on OAT scores, Kingsborough remedial students should have outperformed non-remedials, but they did not.

For the community colleges as a group, regular 1 students who took remediation were slightly less likely to earn a .75 credit ratio. However, an exception to the trend is noted at Queensborough.

If regular 2 students took remediation, the overwhelming likelihood was that they received it in the fall only. This group is about as likely to earn a .75 credit ratio as the non-remedial group. This is particularly the case at Queensborough and Staten Island.

In summary, the evidence suggests that the freshman year remedial experience had visible effects during the sophomore year. This was particularly the case at Kingsborough where the effects were more likely to occur for all remedial categories, rather than for only one. However, remedial effects have been noted for other colleges as well.

2. Analyses of Reduced Credit Load. Data for grade point average are presented in table 4.29. The overall findings

TABLE 4.28

Sophomore Year Credit Ratio in Relation to First Year Remediation (Percent Earning .75 or More Credit Ratio)
Community Colleges - 1970 Freshmen

Level B

College	No. Rem.		Rem. Fall Only		Rem. Spring Only		Rem. Both Terms	
	%	N	%	N	%	N	%	N
Kingsborough	67	129	65	117	69	42	64	97
N.Y.C.C.C.	75	154	73	86	-	6	52	48
Queensborough	73	71	73	134	-	4	54	101
Staten Island	64	50	75	89	70	10	-	6
Total	70	404	71	426	65	62	58	252

Level A

College	No. Rem.		Rem. Fall Only		Rem. Spring Only		Rem. Both Terms	
	%	N	%	N	%	N	%	N
Kingsborough	84	166	81	101	85	34	78	125
N.Y.C.C.C.	81	183	84	80	80	10	61	41
Queensborough	84	183	84	225	-	5	76	84
Staten Island	86	132	80	125	-	2	85	13
Total	83	664	82	531	85	51	75	263

TABLE 4.28

Sophomore Year Credit Ratio in Relation to First Year Remediation (Percent Earning .75 or More Credit Ratio)
Community Colleges - 1970 Freshmen

Regular I

	No. Rem.		Rem. Fall Only		Rem. Spring Only		Rem. Both Terms	
College	%	N	%	N	%	N	%	N
Kingsborough	89	132	78	49	89	35	92	39
N.Y.C.C.C.	92	195	87	45	56	9	78	18
Queensborough	90	241	86	136	-	7	79	33
Staten Island	89	181	84	69	-	4	50	8
Total	90	749	84	301	84	55	82	98

Regular 2

	No. Rem.		Rem. Fall Only		Rem. Spring Only		Rem. Both Terms	
College	%	N	%	N	%	N	%	N
Kingsborough	97	37	90	20	100	8	-	6
N.Y.C.C.C.	96	113	89	18	87	8	73	11
Queensborough	99	107	96	47	-	2	87	8
Staten Island	92	141	90	31	-	4	-	1
Total	96	398	92	116	96	22	85	26

TABLE 4.28

Sophomore Year Credit Ratio in Relation to First Year Remediation (Percent Earning .75 or More Credit Ratio)
Community Colleges - 1970 Freshmen
No High School Average

College	No. Rem.		Rem. Fall Only		Rem. Spring Only		Rem. Both Terms	
	%	N	%	N	%	N	%	N
Kingsborough	61	26	64	14	73	11	80	20
N.Y.C.C.C.	76	37	61	26	-	3	50	20
Queensborough	91	23	88	25	-	2	84	19
Staten Island	76	41	75	20	-	1	-	2
Total	76	127	73	85	78	17	70	61

show no case in which reduced credit load during the freshman year led to an equalization of performance in the sophomore year.

Level B students at Staten Island depart from the general trend. Those who registered for 8-11.99 credits in the freshman year were more likely to earn a C average in the sophomore year than those who were not restricted, and those who attempted less than 8 did as well as the latter.

For level A students no positive effects of any kind for any college are apparent. For regular 1 students, those at Manhattan who took 8-11.9 credits did as well in the sophomore year as those who were not restricted. Those at Staten Island on the moderate restriction did almost as well as the non-restricted students. For regular 2 students, those on moderately restricted credit loads at Queensborough did as well in the sophomore year as those who were not restricted. Those at Staten Island did almost as well as the non-restricted students.

Table 4.30 presents the data for credit generation. The overall findings show no positive effects of initial credit load restriction on subsequent credit generation in the sophomore year. An exception to this generalization is noted at Staten Island, where level B's on moderate credit restrictions were as productive in the second year as those not restricted. At NYCCC those level B students who were on very restricted loads did as well in the second year as those who were on moderately restricted loads, but both groups were well below students who attempted full loads.

Table 4.29

Sophomore Year GPA in

Relation to Credits Registered in Fall 1970 Semester (Percent Above 2.00 GPA) Community Colleges - 1970 Freshmen

Level B

College	Less Than 8		8 - 11.99		12 or More	
	%	N	%	N	%	N
Kingsborough	19	80	28	114	49	191
Manhattan	18	17	39	44	51	85
NYCCC	29	69	25	61	48	164
Queensborough	21	164	34	79	43	67
Staten Island	45	29	54	57	46	69
Total	24	359	34	355	48	576

Level A

College	Less Than 8		8 - 11.99		12 or More	
	%	N	%	N	%	N
Kingsborough	26	39	42	104	58	283
Manhattan	38	13	45	55	78	95
NYCCC	33	51	39	56	64	207
Queensborough	36	159	51	183	61	155
Staten Island	38	26	46	101	66	145
Total	35	288	46	499	63	885

Table 4.29
Sophomore Year GPA in
Relation to Credits Registered in Fall 1970 Semester (Percent Above 2.00 GPA) Community Colleges - 1970 Freshmen

Regular 1

College	Less Than 8		8 - 11.99		12 or More	
	%	N	%	N	%	N
Kingsborough	50	14	58	41	77	200
Manhattan	-	7	67	30	69	103
NYCCC	41	29	56	34	73	204
Queensborough	51	85	64	116	74	216
Staten Island	43	14	68	72	73	176
Total	48	149	63	293	74	899

Regular 2

College	Less Than 8		8 - 11.99		12 or More	
	%	N	%	N	%	N
Kingsborough	--	1	--	5	91	65
Manhattan	--	5	70	20	92	60
NYCCC	62	13	69	16	83	121
Queensborough	70	23	89	36	90	105
Staten Island	70	10	81	32	86	135
Total	67	52	78	109	87	486

Table 4.29

Sophomore Year GPA in Relation to Credits Registered in Fall 1970 Semester (Percent Above 2.00 GPA) Community Colleges - 1970 Freshmen

No High School Average

College	Less Than 8		8 - 11.99		12 or More	
	%	N	%	N	%	N
Kingsborough	43	14	28	18	54	39
Manhattan	30	10	56	27	62	37
NYCCC	19	27	26	19	50	40
Queensborough	38	29	60	20	80	20
Staten Island	30	10	54	11	58	43
	31	90	45	95	59	179

For level A students at NYCCC and Staten Island, those who began college on drastically restricted credit loads did as well in the sophomore year as those who were only on moderately restricted loads. However, in neither case does their performance equal those who were not restricted at all.

For regular 1 students there is only one case in which credit load restriction seems to have had any effects. This occurs at Queensborough, where those who were on moderately restricted credit loads performed as well in the sophomore year as those who were not restricted at all.

Table 4.31 presents the data for credit ratio. For level B students the aggregate data for the community colleges do not indicate any effect of restricted credit load. However, at Staten Island those who were on moderate credit restriction in the freshman year were more likely to achieve a .75 credit ratio than those who were not restricted. Students at Queensborough who were moderately restricted did as well as those who were not restricted. Those at Manhattan did almost as well as the unrestricted students.

The aggregate findings for level A students do not indicate any effects of restricted credit load. At none of the individual colleges did students on restricted credit loads equal the performance of the non-restricted students. However, at NYCCC and Staten Island, those who were on very restricted loads

Table 4.30

Sophomore Second Year Credits Earned in Relation to Credits Registered in Fall 1970 Semester (Percent with 24 or more Credits) Community Colleges - 1970 Freshmen

Level B

	Less than 8		8 - 11.99		12 or More	
College	%	N	%	N	%	N
Kingsborough	19	80	36	114	60	191
Manhattan	24	17	41	44	60	85
NYCCC	35	69	31	61	57	164
Queensborough	12	164	28	79	34	67
Staten Island	21	29	37	57	33	69
Total	19	359	34	355	53	576

Level A

	Less than 8		8 - 11.99		12 or More	
College	%	N	%	N	%	N
Kingsborough	31	39	51	104	68	to 283
Manhattan	31	13	40	55	52	95
NYCCC	47	51	48	56	65	207
Queensborough	26	159	42	183	53	155
Staten Island	42	26	41	101	48	145
Total	32	288	44	499	60	885

Table 4.30

Sophomore Second Year Credits Earned in Relation to Credits Registered in Fall 1970 Semester (Percent with 24 or more Credits) Community Colleges - 1970 Freshmen

Regular 1

College	Less than 8		8 - 11.99		12 or More	
	%	N	%	N	%	N
Kingsborough	43	14	44	41	80	200
Manhattan		7	57	30	72	103
NYCCC	45	29	59	34	73	204
Queensborough	29	85	56	116	59	216
Staten Island	7	14	47	72	55	176
Total	31	149	53	293	68	899

Regular 2

College	Less than 8		8 - 11.99		12 or More	
	%	N	%	N	%	N
Kingsborough	-	1	-	5	86	65
Manhattan	-	5	70	20	83	60
NYCCC	62	13	75	16	86	121
Queensborough	61	23	67	36	83	105
Staten Island	20	10	53	32	67	135
Total	54	52	64	109	80	486

Table 4.30

Sophomore Second Year Credits Earned in Relation to Credits Registered in Fall 1970 Semester (Percent with 24 or more Credits) Community Colleges - 1970 Freshmen

No High School Average

College	Less than 8		8 - 11.99		12 or More	
	%	N	%	N	%	N
Kingsborough	29	14	39	18	61	39
Manhattan	10	10	48	27	73	37
NYCCC	33	27	37	19	50	40
Queensborough	34	29	45	20	85	20
Staten Island	30	10	45	11	37	43
Total	30	90	43	95	58	179

TABLE 4.31

Sophomore Year Credit Ratio in Relation to Credits Registered in Fall '70 Semester (Percent with .75 or Better) Community Colleges - 1970 Freshmen

Level B

College	Less Than 8		8 - 11.99		12 or More	
	%	N	%	N	%	N
Kingsborough	42	80	55	114	82	191
Manhattan	41	17	68	44	72	85
N.Y.C.C.C.	57	69	59	61	81	164
Queensborough	59	164	73	79	76	67
Staten Island	66	29	75	57	70	69
Total	54	359	65	355	78	576

Level A

College	Less Than 8		8 - 11.99		12 or More	
	%	N	%	N	%	N
Kingsborough	62	39	70	104	89	283
Manhattan	54	13	65	55	84	95
N.Y.C.C.C.	69	51	70	56	84	207
Queensborough	74	159	84	183	89	155
Staten Island	73	26	75	101	90	145
Total	70	288	76	499	87	885

TABLE 4.31

Sophomore Year Credit Ratio in Relation to Credits Registered in Fall '70 Semester (Percent with .75 or Better) Community Colleges - 1970 Freshmen

Regular 1

	Less Than 8		8 - 11.99		12 or More	
College	%	N	%	N	%	N
Kingsborough	79	14	63	41	92	200
Manhattan	-	7	70	30	86	103
N.Y.C.C.C.	86	29	91	34	89	204
Queensborough	74	85	87	116	93	216
Staten Island	79	14	81	72	90	176
Total	77	149	81	293	90	899

Regular 2

	Less Than 8		8 - 11.99		12 or More	
College	%	N	%	N	%	N
Kingsborough	-	1	–	5	97	65
Manhattan	-	5	90	20	98	60
N.Y.C.C.C.	77	13	100	16	93	121
Queensborough	96	23	100	36	97	105
Staten Island	80	10	87	32	94	135
Total	88	52	94	109	95	486

TABLE 4.31

Sophomore Year Credit Ratio in Relation to Credits Registered in Fall '70 Semester (Percent with .75 or Better)
Community Colleges - 1970 Freshmen

No High School Average

	Less Than 8		8 - 11.99		12 or More	
College	%	N	%	N	%	N
Kingsborough	57	14	56	18	79	39
Manhattan	30	10	67	27	78	37
N.Y.C.C.C.	52	27	53	19	80	40
Queensborough	86	29	85	20	95	20
Staten Island	80	10	82	11	72	43
Total	64	90	67	95	79	179

(less than eight credits attempted in the first semester of the freshman year) did as well as those who were on moderately restricted loads.

Regular 1 students on restricted credit loads did not approximate the performance of non-restricted students. The one exception to the overall finding occurs at NYCCC, where those on moderately restricted loads did as well as unrestricted students. Those on drastically reduced loads at Kingsborough were more likely to earn credit ratios of .75 than those on moderately restricted loads.

For regular 2 students, those on moderately restricted credit loads were just as likely to achieve a .75 credit ratio as their counterparts who were not restricted. This was particularly the case for students on moderately restricted loads at NYCCC and Queensborough.

Summary of Findings for Community College Students

From these analyses it is clear that remedial experience was related positively to academic performance during the sophomore year for students on different campuses, particularly at Kingsborough. With regard to restricted credit load, some effects are noted, but in general they are fewer and less consistent than was the case for the remediation variable.

SUMMARY

When CUNY began its open admissions program, it anticipated that substantial numbers of students would be deficient in basic academic skills. Accordingly, each campus was to have developed compensatory programs whose aim was to upgrade skills. Presumably, this would increase the chances that students would be able to complete successfully a course of study leading to a degree. Moreover, the compensatory effort was seen as a major factor in avoiding the revolving door (high attrition rates) which had characterized open admissions programs in other places.

While every campus was supposed to develop some compensatory program structure, the specifics of implementation were left to the discretion of each campus. The result was considerable variation in styles of response. Nevertheless, in almost every case the compensatory effort involved two basic components: (1) Formal remedial courses (which initially offered little or no credit); (2) A policy of reduced credit loads during the freshman year (whose intent was gradually to ease students with weak preparation into the mainstream of college work).

The aim of this chapter was to assess the effects of these two components on student academic performance. The measures of academic performance were grade point average, credit generation (in the sophomore year), credit ratio, and retention.

The assessment criteria were as follows: Remediation was considered to be effective if, within any category of high school average, those who received it performed as well or better than those who did not receive it. Reduced credit loads were considered effective, if those who attempted less than 12 credits in a semester (or less than 24 in a year) performed as well or better than those not on reduced loads. This criterion makes an important assumption: that those taking remediation or reduced credit loads had lower levels of academic skills as measured by the Open Admissions Test (OAT). If the assumption holds, and if remedial students equal the performance of non-remedials, it would suggest that remediation was effective. By and large the assumption is correct, since our comparisons of remedial and non-remedial students show that the former do, in fact, have lower OAT scores.

We have first considered the extent of need for remedial services and the delivery of these services. As one would expect, the need for remediation (as measured by the OAT) is closely associated with high school average. Moreover, the need was slightly greater for the 1971 freshmen than for the 1970 group. At the senior colleges, over 80% of level B students needed some form of remedial work. Among level A.1 students, 53% (in 1970) and 66% (in 1971) needed remedial work. For level A.2 students, 31% (in 1970) and 39% (1971) required such work, while less than 15% of regular students showed a need for at least some remediation.

At the community colleges, the need for remediation was greater than for the senior colleges, with the exception of level B students, where the need was greater at the latter.

At the senior colleges, the proportion of students receiving remedial services exceeded the proportion defined as needing it. The one exception to this finding occurred for level B students, where the proportion needing compensatory work exceeded the proportion receiving it. The proportion receiving remedial work was greater in 1971 than in 1970.

At the community colleges, the proportion of students receiving remediation was less than the proportion needing it (as defined by the OAT). In general,community college students were less likely to receive remediation than those at senior colleges.

For both senior and community colleges, there was considerable variation from campus to campus in the proportions needing remedial work. There was also considerable variation in the proportions receiving such work.

Various sets of analyses were conducted in an effort to assess the relationship of remedial and credit load experience to academic outcomes. The first set of analyses considered compensatory work and academic outcomes during the freshman year.

For the senior colleges, remediation seems to have been a mixed success during the freshman year. That is, while remedial experience did not always show positive effects upon academic performance, neither did it fail to show any effects. Moreover, the record of success varied from college to college. The evidence also suggested that remediation was somewhat more effective in the second year of open admissions than it was in the first year. This may be interpreted as an indication of progress.

With regard to reduced credit loads, the evidence indicates only a few instances in which students who took reduced loads performed as well as those who attempted a full number of credits. In particular, level B students in 1971 who took reduced loads approximated the performance of those not restricted.

Insofar as retention is concerned, students who took remedial work in their first term of college were as likely to continue for their second semester as those who took none. In short, the remedial experience had some positive effect on student retention. The relation of credit load restriction and retention after one semester is as follows: Students who took "moderately" reduced loads (between 8-11.99 credits) were about as likely to return for the second term as those who took full loads. However, those who took severely reduced loads (less than 8 credits) were less likely to be retained for the second semester than those who took full loads.

At the community colleges we have found numerous instances in which remediation seemed to improve student academic performance. These occurred for every college, but overall, the college where these effects occurred most frequently was Kingsborough.

By and large, the results regarding the effects of reduced credit loads were not encouraging. Very few instances of positive effects were noted. These few positive effects were limited primarily to comparisons of those on severely reduced loads with those on moderately reduced loads. That is, the former sometimes performed as well as the latter. However, students on reduced loads almost never compared favorably with those on full loads.

With regard to retention, the findings for the community colleges are similar to those observed for the senior colleges. Remediation increased the one semester retention rates. Moderately reduced credit loads seemed to have some positive effect on retention, but the retention of students who took severely restricted loads was lower than for unrestricted students.

We believe that the most strategic approach to analysis of the effects of compensatory programs is to look at academic performance in the second year. This allows us to look at the effects of the program after it has occurred, rather than simultaneously with its occurrence, as in the first set of analyses.

For the senior colleges, the aggregate analyses showed little evidence that remediation in the freshman year had any effects on academic performance in the sophomore year. However, it is very important to note that these overall findings are misleading. They mask the fact that positive effects of remediation were noted at certain individual campuses. Particularly at Baruch, City College, and York, it appears that the remedial experience of the freshman year generated visible effects on the academic achievement of students in their sophomore year.

With regard to reduced credit loads at the senior colleges, few positive effects on sophomore year performance were noted. At individual campuses, there were some effects. These occurred at Baruch, City College, Hunter, and York. In contrast with the analyses of remediation, the effects of reduced credit loads occurred less frequently on individual campuses.

For the community colleges, our data suggest that the freshman remedial experience generated positive effects on academic performance in the sophomore year. Among individual colleges, Kingsborough was the campus where effects were most noteworthy. However, positive effects were noted also for other colleges.

With regard to reduced load, the aggregate findings show almost no positive effect on academic performance in the sophomore year. However, there are some instances of effects among individual campuses, particularly at Staten Island. However, in no case are the results as visible compared with findings on the effects of remediation.

Undoubtedly, those concerned with open admissions, both within and outside the University, would now like to have some clear cut conclusions about the results of compensatory programs. It is impossible to provide these at this time. The data thus far indicate that while remediation is far from a failure, neither can it be said to have been an unqualified success. The reduced credit load policy is, using any criteria, less effective than remediation, but it would be unwarranted at this time to conclude that such a policy should be abandoned. Our analyses in this regard are rather imprecise. Any conclusions about the viability of the reduced credit load policy must await more precise studies which will shortly be undertaken.

We believe that the outstanding fact emerging from our research on compensatory programs, is the variability of results from one campus to another. We think that the discovery of what is being done on specific campuses to bring about positive effects, will, in the long run, provide a basis for modifications in open admissions implementation on all campuses. But this process is, by necessity, a slow one. Each campus has modified what it is doing from one year to another, and it takes time for research analyses to capture these changes and to assess them. In short, the evaluation of compensatory programs can only be a slowly unfolding story. At this moment there is at least some evidence pointing to limited success in some places. Our future research efforts will be devoted to uncovering some of the reasons underlying the apparent successes.

NOTES

1. In rechecking our remedial course file, we have found that a non-remedial math course at Queens was included in the remedial file. This is a course which only regular students would be likely to take. The effect is to inflate the percentage of regular students shown as taking remediation at Queens. Since this group is not a strategic one for our analyses of remediation, we have chosen not to further delay the completion of the report by recomputing the necessary statistical tables. Since the error occurs only for this college, and for the group least significant in terms of our remediation analyses, we do not believe that any serious bias is introduced, which would modify any conclusions about remediation on the senior college campuses.

2. We have conducted tests for significance of differences between means. However, not all of the data for these statistical tests are presented here. They are available on request. We also note that only reading scores are used here, the assumption being that for most students, verbal skills are more important for academic success than quantitative skills.

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CHAPTER 5

COMPARISON OF SEEK AND NON-SEEK STUDENTS

INTRODUCTION

In 1966, CUNY initiated a special program designed to create access to the University for a greater number of students from economically disadvantaged backgrounds. This program, called Search For Education, Elevation, and Knowledge (SEEK) was a forerunner of open admissions at the senior colleges of CUNY. The SEEK program was, and continues to be funded by New York State and New York City. Eligibility for the program is defined by residence in poverty areas. There is no competitive merit principle defining admission to the SEEK program. There are more applicants than available places, and the latter are filled through a lottery procedure.

When the SEEK program was initiated, it was assumed that associated with economic disadvantage were a variety of other environmental factors whose net effect created academic deficits. Thus, the expectation was that SEEK students would have difficulty successfully completing a course of study leading to a college degree. Therefore, built into the SEEK program were a variety of support services designed to assist these students in overcoming their educational and financial deficits. In particular, the SEEK program provided expanded counseling services and remedial courses designed to upgrade basic academic skills in the areas of writing, reading, computational, and study skills. Furthermore, it was a basic assumption of the program that its students, since they came from extremely marginal economic backgounds, would need financial support. Even though CUNY is a tuition free university, there are still costs (such as books; car fare, and lunch) to the student. The preponderance of these students therefore received financial aid to meet such costs.

With the advent of open admissions many students from comparably disadvantaged backgrounds entered CUNY. However, only in rare cases did they receive the financial aid available to SEEK students. While they did benefit from support services such as remediation and counselling, frequently these services were not available to the same degree. For example, the student - counselor ratio for open admissions students is higher than for SEEK students. In short, SEEK students receive more intensive support services than those available to non-SEEK open admissions students.

Because SEEK students have access to a more intense level of support services, and because the nature of this program may create a greater sense of group solidarity than usually exists on college campuses of a non-residential nature, a comparison of SEEK and non-SEEK students is desirable. This may allow us to assess the relative impact of SEEK and open admissions programs. Our student information system now enables us to begin such analyses.

Definition and Characteristics of the Comparison Groups.

Our data files for both the 1970 and 1971 freshmen classes contain codes identifying SEEK students. At the present time these are both incomplete and in some cases inaccurate. Fortunately, we have been able to obtain an official file of SEEK students for 1970 and 1971. We have used this official SEEK file in order to identify the SEEK students in our data files. Assuming the accuracy of the SEEK file, we are able to locate 85% of the students in this file within our own data files. In absolute numbers, the official enrollment reports for the 1970 freshman class show that there were 2471 SEEK students entering in the Fall of 1970. We have data for 2095 of these students. For the 1971 freshmen, 1837 were entering SEEK students, and we have data for 1550. Thus, we have data for 84% of the 1971 freshmen.

Because there are cases missing, we shall present comparisons of SEEK and non-SEEK students for the senior colleges in the aggregate. While we believe it unlikely that the missing cases could introduce significant biases into the aggregate analyses, the missing cases are not randomly distributed among colleges. Therefore, there could be biases for individual campuses which could introduce a high level of error into comparisons at this level. For this reason we have omitted individual college comparisons.

Before considering the comparative data, certain differences in characteristics of the SEEK and non-SEEK populations must be noted. First, the SEEK population is not only more disadvantaged economically. It is also more educationally disadvantaged than the non-SEEK population, even when one controls for high school average. Evidence to this effect is presented in Table 5.0, which compares the two groups on mean scores of the Open Admission Reading Test.

TABLE 5.0

Comparison of SEEK and Non-SEEK Students:
Mean Reading Scores For Open Admissions Test
By High School Average (1970 Freshman)

LEVEL	SEEK		Non-SEEK	
	$\overline{X}$	N	$\overline{X}$	N
Level B	29.1	490	31.3	301
Level A.1	30.2	376	37.1	1187
Level A.2	31.5	200	41.2	3109
Regular	34.5	107	47.7	8498

One can see that at every level of high school average, SEEK students have lower OAT mean scores. While we note this difference, it must be pointed out that we have not controlled for it in the subsequent analyses. Therefore, in comparing the two groups, one would not expect SEEK students to do as well academically as the non-SEEK group. If they were to do as well, this could be considered as evidence suggesting the beneficial impact of the SEEK support services. Since we have not controlled for differences in academic skills, the reader should be cautioned that the analyses presented in this chapter are preliminary.

A second limitation of the comparative data concerns differences in distribution by high school average. These are clearly indicated in table 5.1. For SEEK students the largest single category is the level B group (41%). Only 3% of the non-SEEK students are located in this category. For the latter 62% are regular students. Similar distributions characterize the SEEK and non-SEEK students for the 1971 cohort.

TABLE 5.1

Distribution of SEEK and Non-SEEK Students by High School Average

	SEEK		Non-SEEK	
High School Average	%	N	%	N
No Average	7	140	3	423
Level B	41	853	3	434
Level A.1	29	612	9	1508
Level A.2	16	325	24	3845
Regular	8	165	62	9952
TOTAL	101*	2095	101*	16,162

* Totals are more than 100% due to rounding.

In the comparisons to follow, the different nature of the SEEK and non-SEEK distributions must be taken into account. Comparison of SEEK and non-SEEK totals is misleading. Rather, one must pay particular attention to comparisons within high school average categories.

Organization of the Chapter

The data are organized around three major sections. First, we compare the SEEK and non-SEEK groups on indices of academic success. Second, we consider comparative retention data. Third, we present findings on the impact of remediation.

CRITERIA OF ACADEMIC SUCCESS

This section compares the performance of SEEK and non-SEEK students on three criteria: Grade Point Average, Credit Generation, and Credit Ratio. It begins with a comparison of performance in the freshman year. Data are presented for both the 1970 and 1971 freshmen.

The second part of the section compares the academic performance of the 1970 freshmen over four semesters.

One Year Performance Comparisons

1. 1970 Freshmen. Academic performance comparisons for the first year are presented in tables 5.2, 5.3, and 5.4. Since the bulk of the SEEK students were included in the Level B and Level A.1 categories, we focus particularly on these.

With regard to GPA, the performance of the SEEK students is considerably stronger than the Non-SEEK freshmen. Among the level B students, 50% of the former had a one year GPA of at least 2.00. This was true for only 33% of the Non-SEEK level B students. Among the level A.1 students, 57% of the SEEK group and 43% of the Non-SEEK group had at least a C average. Non-SEEK regular students out-performed the regular SEEK students.

TABLE 5.2

Comparison of SEEK and Non-SEEK Students: Percent With One Year Cumulative GPA of 2.00 or Better by High School Average
(1970 Freshmen)

	SEEK		NON-SEEK	
Level	%	N	%	N
Level B	50	709	33	349
Level A.1	57	534	43	1282
Level A.2	64	284	65	3360
Regular	76	151	87	9196
No Average	52	117	66	349
TOTAL	57	1795	76	14,536

The superiority of the level B and level A.1 SEEK students for GPA is not found in the case of credits. As Table 5.3 shows, Non-SEEK students in these categories are more likely to have earned at least 24 credits by the end of the freshman year. Indeed, Non-SEEK students at all levels exceed their SEEK counterparts in credit generation. We believe this difference in credit generation to be a result of the fact that SEEK students were far more likely to be taking reduced credit loads during their first year.

TABLE 5.3

Comparison of SEEK and Non-SEEK Students: Percent Earning 24 or More Credits After One Year By High School Average (1970 Freshmen)

	SEEK		NON-SEEK	
Level	%	N	%	N
Level B	9	722	20	352
Level A.1	14	540	34	1291
Level A.2	18	285	51	3371
Regular	26	151	76	9203
No Average	10	117	49	352
TOTAL	13	1815	64	14,569

Table 5.4 presents the data for credit ratio. For level B students, the table indicates that while the SEEK group may be earning fewer credits than the Non-SEEK students, they are just as likely to earn at least three quarters of the credits which they attempt. Fifty-six percent of the SEEK students and 53% of the Non-SEEK students in the level B category had a credit ratio of at least .75. Among the level A.1 students, the Non-SEEK group have a slight superiority (65% as against 59%).

TABLE 5.4

Comparison of SEEK and Non-SEEK Students: Percent Earning One Year Cumulative Credit Ratio of .75 or Better By High School Average (1970 Freshmen)

	SEEK		NON-SEEK	
Level	%	N	%	N
Level B	56	671	53	336
Level A.1	59	519	65	1266
Level A.2	64	277	79	3327
Regular	72	148	92	9162
No Average	52	113	77	338
TOTAL	59	1728	85	14,429

2. 1971 Freshmen. Academic performance comparisons for the freshman year are presented in tables 5.5, 5.6, and 5.7. With regard to GPA, the findings for the 1971 cohort are similar to those observed for the 1970 group. That is, the performance of SEEK students was stronger than the Non-SEEK freshmen. Among the level B students, 46% of the SEEK group earned at least a 2.00 average in their first year, compared with 32% for the Non-SEEK freshman. Among the level A.1 students, 58% of the SEEK group and 44% of the Non-SEEK group had at least a C average. Among level A.2 students the two groups show essentially no difference, while regular students in the Non-SEEK category were more likely to earn a C average than their SEEK counterparts.

TABLE 5.5

Comparison of SEEK and Non-SEEK Students: Percent With One Year Cumulative GPA of 2.00 or Better By High School Average (1971 Freshmen)

	SEEK		NON-SEEK	
Level	%	N	%	N
Level B	46	412	32	290
Level A.1	58	363	44	1444
Level A.2	61	301	63	3090
Regular	79	208	87	8557
No Average	46	50	48	27
TOTAL	58	1334	76	13,408

With regard to credit generation, table 5.6 shows that for every comparison, with the exception of level B students, the Non-SEEK group were more likely to have earned 24 or more credits by the end of the freshman year. For the level B category the comparison shows no difference between the two groups.

TABLE 5.6

Comparison of SEEK and Non-SEEK Students: Percent Earning 24 or More Credits After One Year By High School Average (1971 Freshmen)

	SEEK		NON-SEEK	
Level	%	N	%	N
Level B	8	420	7	293
Level A.1	16	366	21	1460
Level A.2	18	306	41	3095
Regular	39	208	74	8567
No Average	4	50	3	33
TOTAL	17	1350	59	13,448

Table 5.7 presents the data for credit ratio. For level B students, the SEEK and Non-SEEK groups were equally likely to earn 75% of the credits which they attempted. There was also no difference for the level A.1 comparison. For both level A.2 and regular students, the Non-SEEK group were more likely than the SEEK students to have a credit ratio of .75.

TABLE 5.7

Comparison of SEEK and Non-SEEK Students: Percent Earning One Year Cumulative Credit Ratio of .75 or Better By High School Average (1971 Freshmen)

	SEEK		NON-SEEK	
Level	%	N	%	N
Level B	58	394	56	283
Level A.1	66	356	67	1418
Level A.2	68	304	78	3035
Regular	81	202	92	8506
No Average	70	47	42	31
TOTAL	67	1303	85	13,273

Comparisons For 1970 Freshmen After Four Semesters

1. Grade Point Average. Table 5.8 compares the SEEK and Non-SEEK groups with regard to cumulative GPA. For level B and level A.1 students there are essentially no differences between the two groups. SEEK students were just as likely as the Non-SEEK group to achieve a C average over four semesters. However, level A.2 and regular students in the SEEK group were less likely to achieve the required C average.

TABLE 5.8

Comparison of SEEK and Non-SEEK Students:
Percentage Earning 2 Year Cumulative Grade Point Average of
2.00 or Better (Senior Colleges)

	SEEK		Non-SEEK	
High School Average	%	N	%	N
Level B	39	514	35	223
Level A.1	47	400	50	918
Level A.2	59	230	69	2610
Regular	65	122	90	7844
No. H.S. Av.	45	76	77	245
TOTAL	47	1341	81	11840

2. Credit Generation. How do the SEEK and Non-SEEK students compare in the number of credits earned after two years? The data are presented in table 5.9. It is very clear that the Non-SEEK group is more likely to have earned at least 48 credits over this period of time. For each level of high school average the non-SEEK students are more than twice as likely as the SEEK students to have generated at least 48 credits.

TABLE 5.9

Comparison of SEEK and Non-SEEK Students: Percentage Earning 48 or More Credits After Two Years (Senior Colleges)

High School Average	SEEK		Non-SEEK	
	%	N	%	N
Level B	11	516	25	223
Level A.1	17	400	39	918
Level A.2	26	230	55	2610
Regular	33	122	79	7844
No. H.S. Av.	13	76	58	245
TOTAL	17	1344	69	11840

We believe that the reason for this difference in credit generation is apparent and may be ascertained from examination of table 5.10. At least in part, SEEK students were not earning as many credits as non-SEEK students because they attempted less initially. At any level of high school average, less than half of the SEEK students registered for 12 or more credits.

TABLE 5.10

Comparison of SEEK and Non-SEEK Students: Credits Attempted in First Semester
(1970 Freshman Class)

High School Average	CREDITS ATTEMPTED											
	12 or More				8-11.99				Less than 8			
	SEEK		Non-SEEK		SEEK		Non-SEEK		SEEK		Non-SEEK	
	%	N	%	N	%	N	%	N	%	N	%	N
Level B	22	115	50	112	29	148	32	72	49	254	17	39
Level A.1	28	112	65	600	31	123	25	227	41	165	10	91
Level A.2	34	79	76	1979	34	79	19	499	31	72	5	132
Regular	38	46	88	6926	28	34	9	733	34	42	2	185
No. H.S. Av.	24	18	82	202	37	28	13	31	39	30	5	12
TOTAL	28	370	84	9819	31	412	16	1562	43	563	6	459

It appears that a policy of restricted credit load was applied more often for SEEK students, the underlying philosophy being that since these students were, in all likelihood, entering college with severe academic deficits, it would be proper to ease them gradually into the mainstream of college work. Therefore, the fact that these students earned fewer credits at the end of two years is not surprising.

While the policy has been to assure that SEEK students will gradually move towards the status of full-time students, carrying larger credit loads, we may raise the question as to when this happens.

In the second year do the SEEK students begin to register for more credits? The data are presented in table 5.11 which shows the percentage of students registering for at least 24 credits. Put in comparative terms, rather few SEEK students registered for 12 or more credits in the first semester of their freshman year. However, in the second year they were much more likely to have registered for 12 credits in both the fall and spring semesters. While they still register for fewer credits than the Non-SEEK students, the difference between the two groups is smaller than it was in the first semester of the freshman year.

TABLE 5.11

Comparison of SEEK and Non-SEEK Students: Percent Attempting 24 or More Credits in Second Year (1970 Freshman Class)

	SEEK		Non-SEEK	
High School Average	%	N	%	N
Level B	52	513	66	223
Level A.1	59	398	69	914
Level A.2	63	230	75	2604
Regular	62	122	87	7823
No H.S. Average	60	76	79	245
TOTAL	58	1339	82	11809

Has this increased credit load resulted in greater productivity during the second year? Table 5.12 presents the findings. These show increases in credit productivity for the SEEK students. At every level of high school average, the percentage earning at least 24 credits in the sophomore year is greater than for the freshman year. For Non-SEEK students the opposite is true: in the sophomore year the probability of earning 24 credits decreases slightly for each category of student. While Non-SEEK students earn substantially more credits than SEEK students in the second year, the data indicate that the discrepancy between the two is smaller in the sophomore year than in the freshman year.

TABLE 5.12

Comparison of SEEK and Non-SEEK
Students: Percent Earning 24 or More
Credits in First Year and Percent Earning
24 or More Credits in Second Year (1970 Freshmen)

High School Average	SEEK				Non-SEEK			
	1st Year		2nd Year		1st Year		2nd Year	
	%	N	%	N	%	N	%	N
Level B	11	516	15	517	30	223	26	223
Level A.1	17	399	23	400	42	915	41	918
Level A.2	21	230	29	230	60	2607	53	2610
Regular	31	122	38	122	80	7842	74	7844
No H.S. Avg.	14	76	20	76	60	245	56	245
TOTAL	17	1343	22	1345	71	11,832	65	11,840

3. Credit Ratio. Data for this variable are presented in table 5.13. SEEK students were less likely to earn at least 3/4 of the credits which they attempt. For level B students 46% of the SEEK group and 65% of the Non-SEEK group have credit ratios of .75 or higher. For level A.1 students the figures are 51% (SEEK) and 72% (Non-SEEK).

TABLE 5.13

Comparison of SEEK and Non-SEEK Students:
Percentage with 2 Year Cumulative Credit Ratio of .75 or Above

	SEEK		Non-SEEK	
High School Average	%	N	%	N
Level B	46	516	65	223
Level A.1	51	400	72	918
Level A.2	60	230	82	2610
Regular	67	122	93	7844
No. H.S. Av.	53	76	78	245
TOTAL	52	1344	88	11840

4. Credit Generation and GPA Considered Simultaneously. As table 5.14 shows, SEEK students are less likely to achieve both 48 credits and a C average over their first four semesters. For example, 9% of SEEK students and 17% of non-SEEK students in the level B category meet both standards.

TABLE 5.14

Comparison of SEEK and Non-SEEK Students:
Percentage Earning 48 or More Credits and a 2.00 or Better Grade
Point Average After 2 Years

	SEEK		Non-SEEK	
High School Average	%	N	%	N
Level B	9	516	17	223
Level A.1	14	400	30	918
Level A.2	22	230	48	2610
Regular	29	122	76	7844
No. H.S. Av.	12	76	53	245
TOTAL	15	1344	65	11840

RETENTION

This section contains two major segments. First, we consider the one semester retention of SEEK and non-SEEK students, for both the 1970 and 1971 freshmen. The primary focus is upon the academic performance characteristics associated with differences in retention.

The second part considers retention among the 1970 freshmen over four semesters.

One Semester Retention

1. Retention And High School Average. Table 5.15 compares the one semester retention rates of SEEK and non-SEEK students who were freshmen in 1970. One can see that the level B SEEK students had slightly higher retention rates than their non-SEEK counterparts, and that for the other categories the rates were essentially the same.

TABLE 5.15

Comparison of SEEK and Non-SEEK Students: Retention Rates After One Semester--1970 Freshmen (Senior Colleges)

High School Average	SEEK %	SEEK N	NON-SEEK %	NON-SEEK N
Level B	86	853	81	434
Level A.1	89	612	86	1508
Level A.2	88	325	88	3845
Regular	92	165	93	9952
No H.S. Avg.	84	140	83	423
TOTAL	87	2095	90	16,162

Data for the 1971 freshmen are presented in table 5.16. The retention rates for this group are about the same as for the 1970 freshman. Moreover, the rates are very similar for both the SEEK and non-SEEK students.

TABLE 5.16

Comparison of SEEK and Non-SEEK Students: Retention Rates After One Semester--1971 Freshmen (Senior Colleges)

High School Average	SEEK %	SEEK N	NON-SEEK %	NON-SEEK N
Level B	86	488	83	352
Level A.1	86	424	86	1703
Level A.2	87	350	87	3582
Regular	90	232	92	9294
No H.S. Avg.	91	56	79	42
TOTAL	87	1550	90	14,973

2. Academic Performance in Relation to Retention. Table 5.17 indicates the relation of GPA in first semester and retention after one semester for the 1970 freshmen. For both the SEEK and non-SEEK groups, the retention rate was higher if the student earned at least a 2.00 average. Thus, 93% of SEEK students earning a 2.00 GPA remained in college for their second semester, while this was true for only 80% of those

who did not attain a 2.00 average. Among the level B and level A.1 students, the retention rate among those failing to attain at least a C average was slightly lower for SEEK than for non-SEEK students. However, the differences are small.

TABLE 5.17

Comparison of SEEK and Non-SEEK Students: Retention Rates After One Semester in Relation to First Semester Grade Point Average (1970 Freshmen)

	ABOVE 2.00				BELOW 2.00			
High School	SEEK		Non-SEEK		SEEK		Non-SEEK	
Average	%	N	%	N	%	N	%	N
Level B	93	458	93	123	78	324	82	266
Level A.1	94	378	94	639	81	201	85	770
Level A.2	94	218	96	2294	80	87	81	1385
Regular	94	125	96	8219	85	34	82	1482
No H.S. Avg.	88	76	91	262	82	51	74	145
TOTAL	93	1255	96	11,537	80	697	82	4,048

The findings noted above for the 1970 freshmen apply also to the 1971 freshmen, as table 5.18 indicates. GPA is again positively associated with retention, and among the level B and level A.1 students, failure to earn a C average lowers the retention of SEEK students only slightly more than it does for the non-SEEK group.

TABLE 5.18

Comparison of SEEK and Non-SEEK Students: Retention Rates After One Semester in Relation to First Semester Grade Point Average (1971 Freshmen)

High School Average	ABOVE 2.00				BELOW 2.00			
	SEEK		Non-SEEK		SEEK		Non-SEEK	
	%	N	%	N	%	N	%	N
Level B	96	261	96	159	84	159	87	135
Level A.1	96	270	98	786	79	109	82	763
Level A.2	98	236	96	2162	81	74	78	1208
Regular	98	179	97	7722	74	35	78	1240
No H.S. Avg.	96	27	100	19	95	20	--	5
TOTAL	97	973	97	10,848	82	397	79	3351

Credit generation is also related to retention as shown in tables 5.19 and 5.20. For the 1970 freshmen, table 5.19 shows that students earning less than 12 credits in their first term had a lower retention rate than students earning more than 12 credits. However, the retention rate for SEEK students was less strongly affected by the failure to earn 12 credits than was the case for the non-SEEK group.

TABLE 5.19

Comparison of SEEK and Non-SEEK Students: Retention Rates After One Semester in Relation to First Semester Credits Earned (1970 Freshmen)

	CREDITS							
	12 or More				Less Than 12			
High School Average	SEEK		Non-SEEK		SEEK		Non-SEEK	
	%	N	%	N	%	N	%	N
Level B	93	77	97	70	86	730	83	329
Level A.1	95	84	97	483	89	510	84	953
Level A.2	95	64	97	1890	88	251	83	1826
Regular	91	43	97	7341	92	119	83	2405
No H.S. Avg.	83	18	94	210	87	112	76	201
TOTAL	93	286	97	9994	88	1722	83	5714

Table 5.20 shows similar findings for the 1971 freshmen. In short, there are no significant changes from one year to the next in the relation of credit generation to first semester retention.

TABLE 5.20

Comparison of SEEK and Non-SEEK Students: Retention Rates After One One Semester in Relation to First Semester Credits Earned (1971 Freshmen)

	CREDITS							
	12 or More				Less Than 12			
High School Average	SEEK		Non-SEEK		SEEK		Non-SEEK	
	%	N	%	N	%	N	%	N
Level B	100	38	100	24	91	404	89	295
Level A.1	96	54	99	328	90	340	87	1279
Level A.2	98	57	99	1382	92	264	83	2030
Regular	100	82	98	6582	90	137	85	2407
No H.S. Avg.	--	2	--	2	96	48	85	33
TOTAL	99	233	98	8318	91	1193	85	6044

Retention Through Four Semesters

For the 1970 freshmen, we have retention data over four semesters. These are presented in table 5.21. The net retention rates are shown in the last two columns of the table. These show the percentage of students who were present all four semesters, plus those who left and returned so as to be registered and taking courses in the fourth semester. The most important comparisons concern the level B and level A.1 students, since these comprise 70% of the SEEK students. The net retention rate for level B SEEK students was 68%, as compared with 58% for non-SEEK students. For the level A.1 SEEK students, it was 72%, compared with 68% for the non-SEEK group. In short, these SEEK students are more likely to persist in college. The same conclusion applies to the other high school average categories.

TABLE 5.21

Comparison of SEEK and Non-SEEK Students of the 1970 Freshman Class:
Retention and Net Retention Rates by High School Average

High School Average	Total Matriculants		Total Present All Four Semesters		Retention Rate		Total Present In Fourth Semester		Net Retention Rate	
	SEEK	NON-SEEK	SEEK	NON-SEEK	SEEK	NON-SEEK	SEEK	NON-SEEK	SEEK	NON-SEEK
Level B	853	434	517	223	61	51	576	253	68	58
Level A.1	612	1508	400	918	65	61	439	1020	72	68
Level A.2	325	3845	230	2610	71	68	250	2803	77	73
Regular	165	9952	122	7844	74	79	131	8175	79	82
No Average	140	423	76	245	54	58	84	284	60	67
TOTAL	2095	16,162	1345	11,840	64	73	1480	12,535	71	78

How do SEEK and non-SEEK students who have left college compare in their propensity to return? The answers are indicated in table 5.22. With the exception of students for whom no high school average information is available, SEEK students at all levels have slightly higher return rates than the non-SEEK group. Thus, among level B students the SEEK return rate is 18%, while the non-SEEK return rate is 14%. For both level A.2 and Regular students the SEEK return rate is 21%, as compared with the non-SEEK rate of 16%.

TABLE 5.22

Comparison of SEEK and Non-SEEK Students: Fourth Semester Return Rates By High School Average (1970 Freshman Class)

High School Average	Total Leaving CUNY		Total Returns Present Fourth Semester		Fourth Semester Return Rate	
	SEEK	Non-SEEK	SEEK	Non-SEEK	SEEK	Non-SEEK
Level B	336	211	59	30	18%	14%
Level A.1	212	590	39	102	18	17
Level A.2	95	1235	20	193	21	16
Regular	43	2108	9	331	21	16
No H.S. Avg.	64	178	8	39	12	22
TOTALS	750	4322	135	695	18	16

In short, with regard to retention rates and return rates, SEEK students are somewhat more likely both to remain in college and, if they have left, to return.

ACADEMIC OUTCOMES OF COMPENSATORY POLICIES

Introduction

This section compares SEEK and Non-SEEK students with regard to outcomes of compensatory policies. Outcomes are defined in terms of grade point average, credit ratio, and retention. The relation of compensatory programs to such outcomes is considered first for the freshman year. Data are presented for the 1970 and 1971 freshmen. Second, we present data assessing compensatory programs for the 1970 freshmen through four semesters.

Two aspects of the compensatory effort are taken into account. First, we consider student experiences in remedial courses. Second, we look at the effects of restricted credit loads.

Comparisons for 1970 Freshmen

1. Remediation and Academic Outcomes. We consider the relationship between remediation in the freshman year and the academic criteria of grade point average and credit ratio at the end of the freshman year.

As an aid to interpretation of the findings, we first consider the relationship between remediation categories and OAT scores. Findings are presented in Table 5.23. For SEEK students the data show, first of all, that if they took remediation, they were most likely to have taken it for both terms of the freshman year. The next largest group were those who took it in the fall only. SEEK students who took remediation in both terms always had significantly lower OAT mean scores than the group which took no remediation at all. Among the other remedial categories ("fall only" and "spring only"), OAT mean scores are not significantly different from the non-remedial group.

For non-SEEK students, with the exception of the level B's, all remedial categories always have lower OAT means than the non-remedial group. Among the level B's there are no significant differences in OAT means.

The significance of these findings for interpretation is as follows: For SEEK students the most important comparisons (in terms of number of students) involve those who took remediation for both semesters and those who took it in the fall only, with the non-remedial group. For the group who took it both semesters, remediation can be said to be effective if they did as well as the non-remedials. For the "fall only" group who do not differ from the non-remedials in OAT scores, remediation would be effective if the former do better than the latter. For the non-SEEK students, if the remedials do as well as the non-remedials, remediation can be presumed to have been beneficial. For the non-SEEK level B's, the remedials should do better than the non-remedials.

Table 5.23

Comparison of SEEK and Non-SEEK Students: OAT Reading Scores in Relation to First Year Remediation (1970 Freshmen)

		No Rem		Rem Fall Only		Rem Spring Only		Rem Both Terms	
Level		SEEK	Non-SEEK	SEEK	Non-SEEK	SEEK	Non-SEEK	SEEK	Non-SEEK
B:	$\overline{X}$	29.9	31.3	30.6	31.9	32.0	31.9	27.6	30.4
	N	(170)	(67)	(84)	(119)	(24)	(16)	(212)	(99)
A.1:	$\overline{X}$	32.0	40.4	32.6	35.5	28.2	36.8	28.3	34.2
	N	(124)	(453)	(66)	(402)	(25)	(38)	(161)	(294)
A.2:	$\overline{X}$	32.6	44.2	33.0	38.6	34.9	37.6	29.3	36.6
	N	(64)	(1661)	(48)	(869)	(11)	(86)	(77)	(493)
Regular	$\overline{X}$	35.9	49.0	38.1	44.9	39.0	45.0	29.9	39.5
	N	(41)	(6326)	(27)	(1633)	(2)	(130)	(37)	(409)

Relationships between remediation and freshman cumulative grade point average are presented in Table 5.24. For level B SEEK students, those who took no remediation were more likely to attain a 2.00 GPA than those who did take it for both terms or in the fall only. Those who took remediation in the spring only performed almost as well as those who did not take it at all. However, relatively few students took remediation only in the spring, and this group is not significantly different in OAT scores.

For the Non-SEEK level B students, a similar conclusion seems warranted. That is, those who took no remediation were more likely to earn a C average over the first year.

For level A.1 SEEK students it again appears that students who did not take remediation were more likely to earn a C average in their freshman year. Students who took remediation in the spring only were just as likely to earn a C average as those who took none at all. However, the "spring only" group does not differ significantly from the non-remedial group on OAT scores.

Among the Non-SEEK level A.1 students, those who took remediation in the fall only did almost as well as those who took none, inspite of the fact that the former have lower OAT scores. However, the substantial number (357) of students who took remediation in both terms fell somewhat below those who took no remediation.

This group was, therefore, not exhibiting much benefit from remediation.

SEEK students in the level A.2 category were, if they took remediation at all, most likely to have taken it in both terms. This group was less likely to earn a C average in the first year, compared with the group taking no remediation. The other remedial categories also fall below the non-remedial group. This is not true among the Non-SEEK students. The substantial number who took remediation in the fall only were just as likely to earn a C average as those who had no remediation at all, in spite of the fact that the latter had significantly higher academic skill levels at the beginning of college. Again, however, those who took remediation in both terms were not as likely to earn a C average by the end of the first year.

In summary, the effects of remediation on grade point average are not apparent for remedial SEEK students by the end of the first year. On the other hand, there are a few cases of apparent impact of remediation for Non-SEEK students.

Table 5.24

Remediation in Relation to One Year Cumulative Grade Point Average: Percent with 2.00 or Better GPA (1970 Freshmen)

Level B

Remediation Category	SEEK %	SEEK N	NON-SEEK %	NON-SEEK N
No Remediation	61	252	49	83
Rem. Fall Only	53	101	24	106
Rem. Spring Only	58	38	38	26
Rem. Both Terms	41	318	28	134
Total	50	709	33	349

Level A.1

Remediation Category	SEEK %	SEEK N	NON-SEEK %	NON-SEEK N
No Remediation	69	174	48	495
Rem. Fall Only	56	94	44	380
Rem. Spring Only	68	44	40	50
Rem. Both Terms	46	222	37	357
Total	57	534	43	1282

Table 5.24

Remediation in Relation to One Year Cumulative Grade Point Average: Percent with 2.00 or Better GPA (1970 Freshmen)

Level A.2

	SEEK		NON-SEEK	
Remediation Category	%	N	%	N
No Remediation	76	86	68	1803
Rem. Fall Only	55	58	68	868
Rem. Spring Only	70	20	57	110
Rem. Both Terms	60	120	52	579
Total	64	284	65	3360

Regular

	SEEK		NON-SEEK	
Remediation Category	%	N	%	N
No Remediation	81	58	87	6,853
Rem. Fall Only	74	31	92	1,700
Rem. Spring Only	62	8	75	158
Rem. Both Terms	74	54	75	485
Total	76	151	87	9,196

Table 5.24

Remediation in Relation to One Year Cumulative Grade Point Average: Percent with 2.00 or Better GPA (1970 Freshmen)

No High School Average

	SEEK		NON-SEEK	
Remediation Category	%	N	%	N
No Remediation	66	44	70	241
Rem. Fall Only	33	21	62	68
Rem. Spring Only	83	6	54	11
Rem. Both Terms	43	46	45	29
Total	52	117	66	349

We now consider remediation in relation to credit ratio. The data are presented in Table 5.25. For SEEK students at levels B, A.1 and A.2, there is no instance in which students taking remediation equaled the performance of those taking no remediation. The latter were always more likely to earn at least 75% of the credits which they attempted. For regular students this is not the case. Students who took remediation both terms were just as likely to have a credit ratio of .75 as students who took no remedial work. The small number of regular students who took remediation in the fall only were more likely than the non-remedial students to earn a .75 credit ratio. Nevertheless, for the bulk of the SEEK students the benefits of remedial experience do not exhibit themselves over the course of the first year for this performance variable.

The findings are different for the case of Non-SEEK students. Level Bs' who took remediation both terms were more likely to have a .75 credit ratio than those who took no remediation at all. Level A.1 students who took remediation for both terms or in the fall only were as likely to have earned a .75 credit ratio as those taking no remediation. Among level A.2 students, those with remediation in the fall only were almost as likely to earn 75% of credits attempted as those who took no remedial work. The same is true for the regular students. In short, for the Non-SEEK group the data suggest that the remedial experience brought the students up to or beyond the level of performance exhibited by their non-remedial counterparts.

Table 5.25

Remediation in Relation to One Year Cumulative Credit Ratio: Percent With .75 or Better (1970 Freshmen)

Level B

	SEEK		NON-SEEK	
Remediation Category	%	N	%	N
No Remediation	61	238	49	80
Rem. Fall Only	52	91	49	105
Rem. Spring Only	51	37	50	24
Rem. Both Terms	54	305	58	127
Total	56	671	53	336

Level A.1

	SEEK		NON-SEEK	
Remediation Category	%	N	%	N
No Remediation	70	166	67	488
Rem. Fall Only	58	93	63	372
Rem. Spring Only	59	44	51	49
Rem. Both Terms	51	216	65	357
Total	59	519	65	1266

Table 5.25

Remediation in Relation to One Year Cumulative Credit Ratio: Percent With .75 or Better (1970 Freshmen)

Level A.2

	SEEK		NON-SEEK	
Remediation Category	%	N	%	N
No Remediation	72	86	82	1783
Rem. Fall Only	62	56	79	864
Rem. Spring Only	60	20	71	105
Rem. Both Terms	59	115	74	575
Total	64	277	79	3327

Regular

	SEEK		NON-SEEK	
Remediation Category	%	N	%	N
No Remediation	70	57	92	6830
Rem. Fall Only	86	29	94	1694
Rem. Spring Only	62	8	83	155
Rem. Both Terms	68	54	85	483
Total	72	148	92	9162

Table 5.25

Remediation in Relation to One Year Cumulative Credit Ratio: Percent With .75 or Better (1970 Freshmen)

No High School Average

	SEEK		NON-SEEK	
Remediation Category	%	N	%	N
No Remediation	61	44	77	232
Rem. Fall Only	30	20	75	68
Rem. Spring Only	67	6	60	10
Rem. Both Terms	51	43	82	28
Total	52	113	77	338

We now consider the relation of remediation and retention after the first semester of the freshman year. The data are presented in Table 5.26. For SEEK students, those who took remedial work were as likely to return for their second semester as those who did not have any remedial courses. Inasmuch as these remedial students had somewhat lower OAT reading scores than their non-remedial counterparts, this suggests that the remedial experience generates some holding power on students.

The general conclusion noted above appears to hold as well for Non-SEEK students. That is, those who took remedial work were just as likely to return for their second semester as those who took no remedial courses.

2. Restricted Credit Load and Academic Outcomes. We now consider the relationship between restrictions in the number of credits taken by freshmen and academic performance criteria.

As an aid to interpretation, we first consider data on the relationship between credits attempted and OAT reading scores. Findings are presented in Table 5.27. For both SEEK and Non-SEEK students at any level of high school average, the relationship between credits attempted and OAT mean scores is positive (although not all differences are statistically significant). That is, the more credits which a student attempted at the beginning of college, the higher was the reading score.

TABLE 5.26

First Semester Remediation in Relation to One Semester Retention Rate (1970 Freshman)

High School Average	No Remediation				1 Remedial Course				2 + Remedial Course			
	SEEK		NON-SEEK		SEEK		NON-SEEK		SEEK		NON-SEEK	
	%	N	%	N	%	N	%	N	%	N	%	N
Level B	85	352	81	134	87	136	81	122	86	365	81	178
Level A.1	88	252	86	637	87	101	85	467	90	259	87	404
Level A.2	85	126	88	2180	94	63	87	1099	88	136	88	566
Regular	93	71	93	7578	91	32	92	1843	92	62	93	531
No High School Average	82	61	82	306	82	33	86	72	87	46	84	45

Table 5.27

Comparison of SEEK and Non-SEEK students: OAT Reading Scores in Relation to First Semester Credits Attempted (1970 Freshmen)

Credits Attempted

		Less than 8		8-11.99		12 or more	
evel		SEEK	Non-SEEK	SEEK	Non-SEEK	SEEK	Non-SEEK
B:	$\overline{X}$	27.0	28.5	31.0	30.8	32.3	32.7
	N	(248)	(59)	(128)	(91)	(88)	(130)
.1:	$\overline{X}$	27.1	34.6	32.8	35.4	34.2	38.5
	N	(175)	(139)	(109)	(294)	(79)	(703)
.2:	$\overline{X}$	27.8	37.2	31.5	39.0	37.6	42.4
	N	(73)	(250)	(62)	(594)	(57)	(2168)
egular:	$\overline{X}$	30.0	44.7	34.8	45.0	38.7	48.2
	N	(35)	(302)	(31)	(872)	(38)	(7157)

The relation between credits attempted and grade point average after the freshman year is shown in Table 5.28. For level B SEEK students, no beneficial effect of restricted credit load is observed. Thus, 41% of SEEK students attempting less than 8 credits earned a C average, while this was true for 56% of those registering for between 8 and 11.99 credits.

For the Non-SEEK level B students, those registering for between 8-11 credits are as likely to earn a C average as those earning 12 or more credits. Inasmuch as the former have lower OAT scores, this suggests that the restricted credit load was helpful.

For level A.1 SEEK students, we again observe no effects of credit limitation. That is, the students on restricted credit load appear less likely to earn a C average as those taking larger credit loads. This is not the case for the Non-SEEK students. Forty percent of those registering for less than 8 credits earned a freshman year grade point average of at least 2.00, while 38% of those registering for between 8-11.99 credits attained this criterion. Thus, a severely restricted credit load appears to have had some effect for the Non-SEEK group.

Credit restrictons show some beneficial impact for the first time with SEEK students in the level A.2 category. Students registered for 8-11.99 credits were just as likely to earn a C average as those attempting 12 or more credits. A similar conclusion derives from imspection of the Non-SEEK data. Level A.2 students who registered for 8-11.99 credits were just as likely to earn a C average as those attempting 12 or more credits, in spite of te fact that the latter scored higher on the OAT.

The results for regular SEEK students suggest a conclusion similar to that drawn for the case of the level A.2 students. That is, students who took 8-11.99 credits were just as likely to earn a C average as those attempting at least 12 credits, although the latter had higher OAT scores. The data suggest the same conclusion for the case of the Non-SEEK students.

In summary, our findings suggest that the policy of restricted credit loads apparently has some beneficial outcome for the GPA variable. However, this is most likely to occur for students whose credit restriction is only moderate (e.g., 8-11.99 credits attempted). The more severe credit restriction (less than 8 credits attempted) shows some benefit in only one case.

Table 5.28

Comparison of SEEK and Non-SEEK Students: Cumulative One Year Grade Point Average in Relation to First Semester Credits Attempted
(Percent with 2.00 or Better G.P.A., 1970 Freshmen)

Level B

	SEEK		NON-SEEK	
Credits Registered	%	N	%	N
Less than 8	41	368	25	73
8-11.99	56	203	35	113
12 or More	62	151	34	166
Total	50	722	32	352

Table 5.28

Comparison of SEEK and Non-SEEK Students: Cumulative One Year Grade Point Average in Relation to First Semester Credits Attempted (Percent with 2.00 or Better G.P.A., 1970 Freshmen)

Level A.1

	SEEK		NON-SEEK	
Credits Registered	%	N	%	N
Less than 8	50	230	40	139
8-11.99	58	171	38	339
12 or More	67	138	46	813
Total	57	539	43	1291

Level A.2

	SEEK		NON-SEEK	
Credits Registered	%	N	%	N
Less than 8	56	98	54	221
8-11.99	69	94	63	639
12 or More	68	93	66	2510
Total	64	285	64	3370

Table 5.28

Comparison of SEEK and Non-SEEK Students: Cumulative One Year Grade Point Average in Relation to First Semester Credits Attempted (Percent with 2.00 or Better G.P.A., 1970 Freshmen)

Regular

	SEEK		NON-SEEK	
Credits Registered	%	N	%	N
Less than 8	68	53	70	282
8-11.99	79	44	83	930
12 or More	81	54	88	7991
Total	76	151	87	9203

No High School Average

	SEEK		NON-SEEK	
Credits Registered	%	N	%	N
Less than 8	39	54	40	20
8-11.99	67	36	59	51
12 or More	59	27	69	281
Total	52	117	66	352

Do restrictions on credits attempted increase the probability that weaker students will earn at least 75% of the credits for which they register? The data are presented in Table 5.29. They reveal several instances where this is the case.

For level B SEEK students, there is relatively little difference among the credits attempted categories in the likelihood of earning .75 credit ratio. For the Non-SEEK level B students, those registering for less than 8 credits do not seem to benefit from this restriction. However, those in the 8-11.99 category are just as likely to attain .75 credit ratio as their more academically skilled counterparts who registered for 12 or more credits.

In the level A.1 category, SEEK students who registered for less than 8 credits are as likely to earn those credits as those who attempted 8-11.99 credits. This is not the case for the Non-SEEK students.

The final case in which restricted credit load shows some beneficial effects occurs for regular SEEK students. Of those registering for less than 8 credits, 68% had a credit ratio of .75 or better, while of those in the 8-11.99 category, 70% attained this credit ratio. This was not the case for the Non-SEEK students.

In summary, it appears that the policy of restricted credit loads does, in several instances, particularly for SEEK students, seem to achieve the goals for which it was intended.

Table 5.29

Comparison of SEEK and Non-SEEK Students: Cumulative One Year Credit Ratio in Relation to First Semester Credits Attempted
(Percent with Credit Ratio of .75 or Better: 1970 Freshmen)

Level B

	SEEK		NON-SEEK	
Credits Attempted	%	N	%	N
Less than 8	50	368	40	73
8-11.99	54	203	52	113
12 or More	55	151	54	166
Total	52	722	50	352

Level A.1

	SEEK		NON-SEEK	
Credits Attempted	%	N	%	N
Less than 8	53	231	48	139
8-11.99	56	171	58	339
12 or More	66	138	68	813
Total	57	540	63	1291

Table 5.29

Comparison of SEEK and Non-SEEK Students: Cumulative One Year Credit Ratio in Relation to First Semester Credits Attempted

(Percent with Credit Ratio of .75 or Better: 1970 Freshmen)

Level A.2

Credits Attempted	SEEK %	SEEK N	NON-SEEK %	NON-SEEK N
Less than 8	53	98	54	222
8-11.99	62	94	73	639
12 or More	72	93	82	2510
Total	62	285	78	3371

Regular

Credits Attempted	SEEK %	SEEK N	NON-SEEK %	NON-SEEK N
Less than 8	68	53	60	282
8-11.99	70	44	84	930
12 or More	74	54	93	7991
Total	71	151	91	9203

Table 5.29

Comparison of SEEK and Non-SEEK Students: Cumulative One Year
Credit Ratio in Relation to First Semester
Credits Attempted
(Percent with Credit Ratio of .75 or Better: 1970 Freshmen)

No High School Average

	SEEK		NON-SEEK	
Credits Attempted	%	N	%	N
Less than 8	37	54	60	20
8-11.99	67	36	59	51
12 or More	56	27	77	281
Total	50	117	74	352

The relation between credits attempted and one semester retention is shown in Table 5.30. Again, there are several instances where restricted credit load seems to increase the probability of retention. Among level B SEEK students who registered for 8-11.99 credits, 89% returned for the second semester. Among those registering for 12 or more credits, 90% returned. Thus, restricted credit load seems to have an effect in this case. Such an effect is not visible for the Non-SEEK students.

For level A.1 students the effect previously noted for level B SEEK students is found for both SEEK and Non-SEEK students. Those registering for 8-11.99 credits are about as likely to return for the second semester as their peers registered for 12 or more credits.

For level A.2 SEEK students, restricted credit loads increase the probability of retention for students in the 8-11.99 category. Ninety-one percent of these students were present for their second semester as compared with 93% of students who attempted 12 or more credits. On the basis of academic skill levels, one would not expect this. For the Non-SEEK students, those attempting 12 or more credits are somewhat more likely to remain in college (93%) as compared with those attempting 8-11.99 credits (88%). However, this difference is rather small and at least suggests some benefit of credit restriction for this group.

For regular SEEK students, those attempting 8-11.99 credits were somewhat more likely to remain in college (96%) than their counterparts who attempted 12 or more credits (91%). This is not observed for the Non-SEEK regular students.

Table 5.30

Comparison of SEEK and Non-SEEK Students: Retention After One Semester in Relation to Credits Attempted (Percent Retained 1970 Freshmen)

Level B

	SEEK		NON-SEEK	
Credits Attempted	%	N	%	N
Less than 8	82	459	58	125
8-11.99	89	227	86	131
12 or More	90	167	93	178
Total	86	853	81	434

Level A.1

	SEEK		NON-SEEK	
Credits Attempted	%	N	%	N
Less than 8	85	274	57	250
8-11.99	90	189	90	377
12 or More	93	149	92	881
Total	89	612	86	1508

Table 5.30

Comparison of SEEK and Non-SEEK Students: Retention After One Semester in Relation to Credits Attempted (Percent Retained 1970 Freshmen)

Level A.2

	SEEK		NON-SEEK	
Credits Attempted	%	N	%	N
Less than 8	81	122	53	435
8-11.99	91	103	88	724
12 or More	93	100	93	2686
Total	88	325	88	3845

Regular

	SEEK		NON-SEEK	
Credits Attempted	%	N	%	N
Less than 8	90	60	49	592
8-11.99	96	46	88	1052
12 or More	91	59	96	8308
Total	92	165	93	9952

Table 5.30

Comparison of SEEK and Non-SEEK Students: Retention After One Semester in Relation to Credits Attempted (Percent Retained 1970 Freshmen)

No High School Average

	SEEK		NON-SEEK	
Credits Attempted	%	N	%	N
Less than 8	78	69	45	44
8-11.99	90	40	84	61
12 or More	87	31	88	318
Total	84	140	83	423

In summary, we have observed several instances where the policy of restrictive credit loads seems to have beneficial results, although the outcomes do not occur consistently. Moreover, the beneficial impact of this policy seems more visible for SEEK students than for the Non-SEEK group.

Comparisons for 1971 Freshmen

1. Remediation and Academic Outcomes. Table 5.31 presents data on the relationship between remediation categories and OAT reading scores. For level B, level A.2, and Regular SEEK students, those who took no remediation always have higher OAT reading scores than students taking any type of remediation. For level A.1 students, the Non-remedial students do not have higher scores than those in remediation.

For Non-SEEK students the Non-remedial group have higher OAT scores than remedial students. The only exception occurs for regular, "spring only" remedials, who have a higher mean than non-remedials.

Table 5.31

Comparison of SEEK and Non-SEEK Students: OAT Reading Scores in Relation to First Year Remediation (1971 Freshmen)

	No Rem		Rem Fall Only		Rem Spring Only		Rem Both Terms	
Level	SEEK	Non-SEEK	SEEK	Non-SEEK	SEEK	Non-SEEK	SEEK	Non-SEEK
B:								
$\bar{X}$	29.8	37.9	26.8	32.3	23.6	24.5	27.9	27.5
N	(45)	(10)	(64)	(48)	(14)	(2)	(153)	(127)
A.1:								
$\bar{X}$	31.0	39.4	31.4	35.8	33.1	37.1	31.6	32.5
N	(63)	(209)	(68)	(364)	(8)	(51)	(134)	(583)
A.2:								
$\bar{X}$	36.7	43.4	34.5	38.4	34.6	41.9	32.2	36.4
N	(63)	(1033)	(51)	(763)	(7)	(69)	(116)	(797)
Regular:								
$\bar{X}$	41.0	47.8	36.3	44.3	37.6	49.0	34.1	39.0
N	(64)	(5183)	(34)	(1301)	(7)	(230)	(51)	(679)

We first consider remediation in relation to one year cumulative grade point average. The data are presented in Table 5.32. At all levels of high school average except the Regular category, some types of remedial experience seem to have benefitted the SEEK students. Thus, level B students who had remediation in the fall only were just as likely to earn a C average as those who had no remediation. However, those who took remediation in both terms were less likely to have earned a C average. For level A.1 students, those who took remediation either in the fall only or in the spring only, were more likely to have earned a C average than their non-remedial counterparts. Again, however, the group which took remediation in both terms was least likely to acheive a C average. Exactly the same conclusion is suggested by the data for level A.2 students. Only for the regular students is there no evidence that remediation had positive effects.

For the Non-SEEK students there are also indications of positive effects of remediation. This is true for all categories of high school average except for level B students. For the latter, every category of remedial student is substantially less likely to have earned a C average compared with the non-remedial group. The level A.1 students in remediation during the fall only were almost as likely as the nonremedial group to meet the GPA criterion. The "fall only" and "spring only" groups were almost as likely to have a 2.00 GPA as the non-remedial group among level A.2 students. Those who took remediation both terms were less likely than the non-remedials to have attained the

Table 5.32

Remediation in Relation to One Year Cumulative Grade Point Average: Percent with 2.00 or Better GPA (1971 Freshmen)

Level B

Remediation Category	SEEK %	SEEK N	NON-SEEK %	NON-SEEK N
No Remediation	51	85	56	61
Rem. Fall Only	56	70	24	45
Rem. Spring Only	61	23	29	14
Rem. Both Terms	41	234	26	170
Total	46	412	32	290

Level A.1

Remediation Category	SEEK %	SEEK N	NON-SEEK %	NON-SEEK N
No Remediation	57	89	49	284
Rem. Fall Only	74	74	45	336
Rem. Spring Only	71	14	38	63
Rem. Both Terms	50	186	43	761
Total	58	363	44	1444

Table 5.32

Remediation in Relation to One Year Cumulative
Grade Point Average: Percent with 2.00 or Better GPA
(1971 Freshmen)

Level A.2

Remediation Category	SEEK %	SEEK N	NON-SEEK %	NON-SEEK N
No Remediation	65	96	67	1277
Rem. Fall Only	67	49	63	706
Rem. Spring Only	77	13	64	103
Rem. Both Terms	56	143	58	1004
Total	61	301	63	3090

Regular

Remediation Category	SEEK %	SEEK N	NON-SEEK %	NON-SEEK N
No Remediation	89	81	89	6108
Rem. Fall Only	71	48	88	1362
Rem. Spring Only	80	10	84	276
Rem. Both Terms	74	69	71	811
Total	79	208	87	8557

Table 5.32

Remediation in Relation to One Year Cumulative
Grade Point Average: Percent with 2.00 or Better GPA
(1971 Freshmen)

No High School Average

	SEEK		NON-SEEK	
Remediation Category	%	N	%	N
No Remediation	-	3	-	2
Rem. Fall Only	60	10	56	16
Rem. Spring Only	-	1	-	2
Rem. Both Terms	44	36	29	7
Total	46	50	48	27

same average. For regular students, those in remediation in the fall only do as well as those who took no remediation. On the other hand, those who took remediation both terms were less likely than any other group to meet the GPA criterion.

To summarize, we find indications that the remedial experience had positive effects both for SEEK and Non-SEEK students. However, the patterns for these groups are not the same. In particular, level B SEEK students seem to benefit from remediation, while this is not the case for the Non-SEEK students.

We now consider remediation in relation to one year cumulative credit ratio. The data are presented in Table 5.33. Positive effects of remediation are observed for SEEK students at every level of high school average. That is, remedial students are as likely, or more likely than non-remedial students to earn at least 75% of the credits which they attempted. The situation with regard to Non-SEEK students is similar, although the effects are not as consistent or as strong as observed for the SEEK group.

Table 5.33

Remediation in Relation to One Year Cumulative Credit Ratio: Percent With .75 or Better
(1971 Freshmen)

Level B

	SEEK		NON-SEEK	
Remediation Category	%	N	%	N
No Remediation	51	80	64	61
Rem. Fall Only	58	66	60	45
Rem. Spring Only	54	22	43	14
Rem. Both Terms	61	226	54	163
Total	58	394	56	283

Level A.1

	SEEK		NON-SEEK	
Remediation Category	%	N	%	N
No Remediation	60	90	66	277
Rem. Fall Only	73	74	67	327
Rem. Spring Only	77	13	72	61
Rem. Both Terms	66	179	66	753
Total	66	356	67	1418

Table 5.33

Remediation in Relation to One Year Cumulative Credit Ratio:
Percent With .75 or Better
(1971 Freshmen)

Level A.2

Remediation Category	SEEK %	SEEK N	NON-SEEK %	NON-SEEK N
No Remediation	62	96	80	1253
Rem. Fall Only	74	51	79	691
Rem. Spring Only	61	13	75	100
Rem. Both Terms	71	144	76	991
Total	68	304	78	3035

Regular

Remediation Category	SEEK %	SEEK N	NON-SEEK %	NON-SEEK N
No Remediation	81	81	93	6070
Rem. Fall Only	74	46	92	1357
Rem. Spring Only	90	10	87	272
Rem. Both Terms	85	65	82	807
Total	81	202	92	8506

Table 5.33

Remediation in Relation to One Year Cumulative Credit Ratio: Percent With .75 or Better (1971 Freshmen)

No High School Average

	SEEK		NON-SEEK	
Remediation Category	%	N	%	N
No Remediation	-	2	-	2
Rem. Fall Only	60	10	39	18
Rem. Spring Only	-	1	-	2
Rem. Both Terms	76	34	33	9
Total	70	47	42	31

Table 5.34 presents the data on retention after one semester in relation to remediation in the first semester of college. The direction of the findings is clear: they show for both SEEK and Non-SEEK students, that those who took remedial work had retention rates as high as the rates for non-remedial students. Inasmuch as the remedial students were academically less skilled, as indicated by the OAT scores, and since, other things being equal, those less skilled should have lower retention rates, the remedial experience seems to generate some holding power on students.

2. Restricted Credit Load and Academic Outcomes. Before considering the findings regarding restricted credit loads in relation to academic performance, we first consider the relation between OAT mean reading scores and credits attempted in the first semester of the freshman year. Table 5.35 presents the findings. For both SEEK and Non-SEEK students, OAT scores are positively associated with credits attempted. That is, in almost all cases the more credits attempted, the higher the OAT mean score.

With this as a background, the relation of credit load and academic performance can be assessed.

Table 5.34

Remediation in Relation to One Semester Retention Rate (1971 Freshmen)

	No Remediation				1 Remedial Course				2 + Remedial Course			
	SEEK		NON-SEEK		SEEK		NON-SEEK		SEEK		NON-SEEK	
High School Average	%	N	%	N	%	N	%	N	%	N	%	N
No High School Average	71	7	44	9	100	10	84	19	92	39	93	14
Level B	85	131	72	104	83	123	90	94	89	234	87	154
Level A.1	81	129	83	417	87	92	84	569	90	203	89	717
Level A.2	87	126	87	1600	84	68	86	1011	89	156	87	971
Regular	90	101	92	6912	91	46	93	1618	88	85	89	764

TABLE 5.35

Comparison of SEEK and Non-SEEK students: OAT reading Scores in Relation to First Semester Credits Attempted (1971 Freshmen)

CREDITS ATTEMPTED

	Less than 8		8-11.99		12 or more	
LEVEL	SEEK	Non-SEEK	SEEK	Non-SEEK	SEEK	Non-SEEK
B:						
$\bar{X}$	27.1	26.3	29.1.	31.3	29.2	37.3
N	(144)	(99)	(71)	(41)	(37)	(33)
A.1:						
$\bar{X}$	30.4	30.2	32.4	34.8	34.6	38.2
N	(141)	(290)	(75)	(429)	(45)	(436)
A.2:						
$\bar{X}$	31.5	33.8	34.3	37.7	39.5	42.1
N	(90)	(298)	(77)	(713)	(51)	(1534)
Regular:						
$\bar{X}$	33.8	39.9	36.0	43.5	40.8	47.3
N	(36)	(275)	(48)	(875)	(66)	(6041)

Table 5.36 presents data on the relation between credits attempted and cumulative one year grade point average. For the SEEK students the data indicate that restricted credit loads do not increase the likelihood of attaining a C average in the freshman year. That is, students who register for fewer credits are less likely to earn a C average than students who register for more credits. There is only one exception to this general finding: regular SEEK students who registered for between 8-11.99 credits were almost as likely to attain a C average as students registering for 12 or more credits.

Among Non-SEEK students there are two instances where restricted credit load appears to have some positive effects. First, level B students who registered for 12 or more credits were less likely to earn a C average than students attempting 8-11.99 credits. Second, level A.1 students who registered for 8-11.99 credits were almost as likely to earn a C average as their peers who attempted 12 or more credits.

In short, we find a few instances in which restricted load appears to increase the chances that a student will earn a C average. However, in most cases there are no apparent effects.

TABLE 5.36

Comparison of SEEK and Non-SEEK Students: Cumulative One Year Grade Point Average in Relation to First Semester Credits Attempted (Percent with 2.00 or Better G.P.A., 1971 Freshmen).

LEVEL B

	SEEK		NON-SEEK	
Credits Registered	%	N	%	N
Less than 8	38	237	27	147
8-11.99	50	121	38	98
12 or More	66	62	33	48
Total	45	420	32	293

TABLE 5.36

Comparison of SEEK and Non-SEEK Students: Cumulative One Year Grade Point Average in Relation to First Semester Credits Attempted (Percent with 2.00 or Better G.P.A., 1971 Freshmen).

LEVEL A.1

	SEEK		NON-SEEK	
Credits Registered	%	N	%	N
Less than 8	47	180	38	363
8-11.99	64	111	44	520
12 or More	71	75	48	577
Total	57	366	44	1460

TABLE 5.36

Comparison of SEEK and Non-SEEK Students: Cumulative One Year Grade Point Average in Relation to First Semester Credits Attempted (Percent with 2.00 or Better G.P.A., 1971 Freshmen).

LEVEL A.2

	SEEK		NON-SEEK	
Credits Registered	%	N	%	N
Less than 8	46	106	47	369
8-11.99	64	118	58	846
12 or More	74	82	68	1880
Total	60	306	63	3095

TABLE 5.36

Comparison of SEEK and Non-SEEK Students: Cumulative One Year Grade Point Average in Relation to First Semester Credits Attempted (Percent with 2.00 or Better G.P.A., 1971 Freshmen).

REGULAR

	SEEK		NON-SEEK	
Credits Registered	%	N	%	N
Less than 8	57	42	63	385
8-11.99	82	68	77	995
12 or More	87	98	90	7187
Total	79	208	87	8567

TABLE 5.36

Comparison of SEEK and Non-SEEK Students: Cumulative One Year Grade Point Average in Relation to First Semester Credits Attempted (Percent with 2.00 or Better G.P.A., 1971 Freshmen).

NO HIGH SCHOOL AVERAGE

	SEEK		NON-SEEK	
Credits Registered	%	N	%	N
Less than 8	45	40	16	19
8-11.99	37	8	73	11
12 or More	-	2	-	3
Total	46	50	39	33

Data portraying the relationship between credits attempted and cumulative credit ratio in the freshman year are presented in Table 5.37.

Level B SEEK students registering for less than 8 credits were almost as likely to earn at least 75% of those credits as students registering for 8-11.99 credits. For Non-SEEK students, the probability of earning a .75 credit ratio was about the same regardless of the number of credits attempted. For both SEEK and Non-SEEK students, therefore, we see evidence that restricted credit load improves the chances that weaker students will attain a .75 credit ratio.

For level A.1 students we see that for the Non-SEEK category, those who registered for 8-11.99 credits were about as likely to have a .75 ratio as those wo registered for 12 or more credits. SEEK students at this level exhibit no such benefits from restricted credit load.

For other levels, there are no positive effects of restricted credit loads.

TABLE 5.37

Comparison of SEEK and Non-SEEK Students: Cumulative One Year Credit Ratio in Relation to First Semester Credits Attempted (Percent with Credit Ratio of .75 or Better 1971 Freshmen)

LEVEL B

	SEEK		NON-SEEK	
Credits Attempted	%	N	%	N
Less than 8	51	237	54	147
8-11.99	55	121	54	98
12 or more	68	62	56	48
Total	55	420	55	293

TABLE 5.37

Comparison of SEEK and Non-SEEK Students. Cumulative One Year Credit Ratio in Relation to First Semester Credits Attempted (Percent with Credit Ratio of .75 or Better 1971 Freshmen)

LEVEL A.1

	SEEK		NON-SEEK	
Credits Attempted	%	N	%	N
Less than 8	57	180	55	363
8-11.99	67	111	66	520
12 or more	79	75	69	577
Total	64	366	65	1460

TABLE 5.37

Comparison of SEEK and Non-SEEK Students: Cumulative One Year Credit Ratio in Relation to First Semester Credits Attempted (Percent with Credit Ratio of .75 or Better 1971 Freshmen)

LEVEL A.2

	SEEK		NON-SEEK	
Credits Attempted	%	N	%	N
Less than 8	62	106	65	369
8-11.99	69	118	73	846
12 or more	74	82	81	1880
Total	68	306	77	3095

TABLE 5.37

Comparison of SEEK and Non-SEEK Students: Cumulative One Year Credit Ratio in Relation to First Semester Credits Attempted (Percent with Credit Ratio of .75 or Better 1971 Freshmen)

REGULAR

	SEEK		NON-SEEK	
Credits Attempted	%	N	%	N
Less than 8	67	42	69	385
8-11.99	79	68	82	995
12 or more	84	98	93	7187
Total	79	208	91	8567

TABLE 5.37

Comparison of SEEK and Non-SEEK Students: Cumulative One Year Credit Ratio in Relation to First Semester Credits Attempted (Percent with Credit Ratio of .75 or Better 1971 Freshmen)

NO HIGH SCHOOL AVERAGE

	SEEK		NON-SEEK	
Credits Attempted	%	N	%	N
Less than 8	65	40	21	19
8-11.99	62	8	64	11
12 or more	-	2	-	3
Total	66	50	39	33

Table 5.38 presents data comparing retention rates for students carrying different credit loads. For both SEEK and Non-SEEK level B students, those attempting 8-11.99 credits had retention rates approximately the same as those attempting 12 or more credits. Thus the 8-11.99 group appear to benefit from the restricted load. However, this is not the case for those attempting less than 8 credits.

The conclusion noted above for level B students applies as well to level A.1 students for both SEEK and Non-SEEK categories. That is, the 8-11.99 credit load seems to increase the retention of these students. This is not the case for those attempting less than 8 credits.

Level A.2 students in both SEEK and Non-SEEK categories who attempted 8-11.99 credits had retention rates which are essentially the same as those attempting more than 12 credits. However, restricting students to less than 8 credits did not seem to increase the probabilities that the students would return for the second semester.

For regular SEEK students the 8-11.99 group again had retention rates almost identical with the group which attempted 12 or more credits. No such effect is noted for the Non-SEEK group.

In summary, there are some instances in which the policy of restricted credit load appears to have had positive effects for both SEEK and non-SEEK groups. Where these occur, it is among students who attempted 8-11.99 credits. No effects were noted for students who attempted less than 8 credits.

TABLE 5.38

Comparison of SEEK and Non-SEEK Students: Retention After One Semester in Relation to Credits Attempted (Percent Retained, 1971 Freshmen)

LEVEL B

	SEEK		NON-SEEK	
Credits Attempted	%	N	%	N
Less than 8	81	294	76	195
8-11.99	93	130	92	107
12 or More	97	64	96	50
Total	86	488	83	352

TABLE 5.38

Comparison of SEEK and Non-SEEK Students: Retention After One Semester in Relation to Credits Attempted (Percent Retained, 1971 Freshmen)

LEVEL A.1

	SEEK		NON-SEEK	
Credits Attempted	%	N	%	N
Less than 8	79	228	71	518
8-11.99	95	117	91	571
12 or More	95	79	94	614
Total	86	424	86	1703

TABLE 5.38

Comparison of SEEK and Non-SEEK Students: Retention After One Semester in Relation to Credits Attempted (Percent Retained, 1971 Freshmen)

LEVEL A.2

	SEEK		NON-SEEK	
Credits Attempted	%	N	%	N
Less than 8	75	141	61	622
8-11.99	96	123	90	944
12 or More	95	86	93	2016
Total	87	350	87	3582

TABLE 5.38

Comparison of SEEK and Non-SEEK Students: Retention After One Semester in Relation to Credits Attempted (Percent Retained 1971 Freshmen)

REGULAR

	SEEK		NON-SEEK	
Credits Attempted	%	N	%	N
Less than 8	68	62	53	740
8-11.99	97	70	90	1099
12 or More	98	100	96	7455
Total	90	232	92	9294

TABLE 5.38

Comparison of SEEK and Non-SEEK Students: Retention After One Semester in Relation to Credits Attempted (Percent Retained 1971 Freshmen)

NO HIGH SCHOOL AVERAGE

	SEEK		NON-SEEK	
Credits Attempted	%	N	%	N
Less than 8	91	45	70	27
8-11.99	89	9	92	12
12 or More	-	2	-	3
Total	91	56	79	42

Effects of Compensatory Programs on Second Year Academic Performance: 1970 Freshmen

The preceding analyses of compensatory programs in relation to academic performance in the freshman year have indicated some positive effects for both Seek and Non-Seek students. However, it seems to us that the effects of compensatory work should be most visible after students have had the experience. Therefore, we not present a set of analyses which assess sophomore academic performance in relation to the compensatory experience of the freshman year (1970 freshman).

1. Effects of Remediation. Table 5.39 allows us to assess the sophomore year GPA in relation to freshman year remediation. The data for SEEK students seem rather striking. For level B, level A.1, and level A.2 SEEK students, we find that the group least likely to earn a C average in the sophomore year were those who took no remediation in the freshman year. In every case, the remedial students were as, or more likely to achieve this GPA. The only exception to the above occurs for regular students. For this group those who took remediation in both terms were the group least likely to have earned a C average. However, those who took remediation in the fall only or in the spring only were at least as likely to have earned a C average.

The data for Non-SEEK students suggest that remediation was less effective for this group. For level B students those who took no remediation in the first year were the group most likely to have earned a C average in the sophomore year. Among the level A.1 students 43% of those who took remediation in the fall only earned a C average, while 48% of those who took no remediation reached this level. This is a relatively small difference and at least suggests that remediation was effective for one of the remedial categories. The data for level A.2 students suggests a similar conclusion: namely, that the group taking remediation in the fall were almost as likely to earn a C as the group which took no remediation at all. The data point to the same conclusion for the regular students.

This analysis suggests that there are discernible effects of freshman remedial experience on sophomore academic performance. However, these effects emerge more strongly for the SEEK students than for the Non-SEEK students.

TABLE 5.39

Comparisons of SEEK and Non-SEEK Students: Second Year G.P.A. in Relation to First Year Remediation (% with 2.00 or Better G.P.A. in Both Terms)

LEVEL B

	SEEK		NON-SEEK	
Remediation Category	%	N	%	N
No Remediation	20	178	33	54
Rem. Fall Only	28	71	22	63
Rem. Spring Only	25	28	0	13
Rem. Both Terms	22	240	18	93
Totals	22	517	22	223

TABLE 5.39

Comparisons of SEEK and Non-SEEK Students: Second Year G.P.A. in Relation to First Year Remediation (% with 2.00 or Better G.P.A. in Both Terms)

LEVEL A.1

	SEEK		NON-SEEK	
Remediation Category	%	N	%	N
No Remediation	26	123	48	352
Rem. Fall Only	27	75	43	278
Rem. Spring Only	38	34	34	35
Rem. Both Terms	29	168	29	253
Totals	28	400	41	918

TABLE 5.39

Comparisons of SEEK and Non-SEEK Students: Second Year G.P.A. in Relation to First Year Remediation (% with 2.00 or Better G.P.A. in Both Terms)

LEVEL A.2

	SEEK		NON-SEEK	
Remediation Category	%	N	%	N
No Remediation	34	71	60	1417
Rem. Fall Only	41	46	55	665
Rem. Spring Only	39	18	39	76
Rem. Both Terms	36	95	43	452
Totals	36	230	55	2610

TABLE 5.39

Comparisons of SEEK and Non-SEEK Students: Second Year G.P.A. in Relation to First Year Remediation (% with 2.00 or Better G.P.A. in Both Terms)

REGULAR

Remediation Category	SEEK %	SEEK N	NON-SEEK %	NON-SEEK N
No Remediation	53	45	80	5877
Rem. Fall Only	52	27	75	1450
Rem. Spring Only	67	6	71	120
Rem. Both Terms	36	44	61	397
Totals	47	122	78	7844

TABLE 5.39

Comparisons of SEEK and Non-SEEK Students: Second Year G.P.A. in Relation to First Year Remediation (% with 2.00 or Better G.P.A. in Both Terms)

NO HIGH SCHOOL AVERAGE

Remediation Category	SEEK %	SEEK N	NON-SEEK %	NON-SEEK N
No Remediation	16	31	65	179
Rem. Fall Only	36	11	67	39
Rem. Spring Only	50	6	25	8
Rem. Both Terms	32	28	37	19
Totals	28	76	62	245

Table 5.40 presents data which allow us to assess freshman year remediation in relation to sophomore year credit generation. For SEEK students some effects of remediation may be inferred for every level. Thus, while 13% of level B students who took no remediation in the freshman year earned at least 24 credits in the sophomore year, this was true for 18% of those who took remediation in the fall only, 11% who took it in the spring only, and 16% who took it for both terms. These results suggest that remediation was effective for the level B students, although it must be observed that the proportions earning 24 or more credits are, on an absolute basis, quite low.

For level A.1 students, those who took remediation were at least as likely to earn 24 credits as those who took no remediation. The only exception to this is for those who took remediation in both terms. They are slightly less likely to generate 24 credits than the non-remedial group.

Level A.2 students who took remediation in the fall only were considerably more likely to earn 24 or more credits than those who took no remediation. Those who took remediation in the spring only, or for both terms, were somewhat less likely than the non-remedial group to generate 24 credits. Regular SEEK students who took remediation for the fall only were just as likely as the non-remedials to reach the credit criterion. Those who took remediation for both terms were considerably less likely to earn 24 credits.

While Non-SEEK students as a group did earn more credits than the SEEK students, those who took remediation do not appear to have benefited as much as the SEEK group. Among Level B students who took remediation in the fall only, 30% earned 24 more credits, while

33% of those who took no remediation reached this level. Remediation seems to have been beneficial for the former. For the Non-SEEK group this is the only case in which the achievement of a remedial group equalled the achievement of the non-remedial group.

With regard to this analysis, the effects of remediation are apparent for the SEEK group. They are superior to the Non-SEEK group in this respect.

TABLE 5.40

Comparison of SEEK and Non-SEEK Students: Cumulative Credits Earned in Second Year in Relation to First Year Remediation (% Earning 24 or More Credits, 1970 Freshmen)

LEVEL B

	SEEK		NON-SEEK	
Remediation Category	%	N	%	N
No Remediation	13	178	33	54
Rem. Fall only	18	71	30	63
Rem. Spring only	11	28	0	13
Rem. Both Terms	16	240	24	93
Total	15	517	26	223

TABLE 5.40

Comparison of SEEK and Non-SEEK Students: Cumulative Credits Earned in Second Year in Relation to First Year Remediation (% Earning 24 or More Credits, 1970 Freshmen)

LEVEL A.1

	SEEK		NON-SEEK	
Remediation Category	%	N	%	N
No Remediation	23	123	46	352
Rem. Fall only	25	75	39	278
Rem. Spring only	41	34	29	35
Rem. Both Terms	18	168	37	253
Total	23	400	41	918

TABLE 5.40

Comparison of SEEK and Non-SEEK Students: Cumulative Credits Earned in Second Year in Relation to First Year Remediation (% Earning 24 or More Credits, 1970 Freshmen)

LEVEL A.2

	SEEK		NON-SEEK	
Remediation Category	%	N	%	N
No Remediation	28	71	59	1417
Rem. Fall only	41	46	49	665
Rem. Spring only	22	18	35	76
Rem. Both Terms	24	95	43	452
Total	29	230	53	2610

TABLE 5.40

Comparison of SEEK and Non-SEEK Students: Cumulative Credits Earned in Second Year in Relation to First Year Remediation (% Earning 24 or More Credits, 1970 Freshmen)

REGULAR

Remediation Category	SEEK		NON-SEEK	
	%	N	%	N
No Remediation	49	45	76	5877
Rem. Fall only	48	27	69	1450
Rem. Spring only	50	6	60	120
Rem. Both Terms	20	44	54	397
Total	38	122	74	7844

TABLE 5.40

Comparison of SEEK and Non-SEEK Students: Cumulative Credits Earned in Second Year in Relation to First Year Remediation (% Earning 24 or More Credits, 1970 Freshmen)

NO HIGH SCHOOL AVERAGE

Remediation Category	SEEK		NON-SEEK	
	%	N	%	N
No Remediation	23	31	59	179
Rem. Fall only	45	11	54	39
Rem. Spring only	0	6	25	8
Rem. Both Terms	11	28	47	19
Total	20	76	56	245

Findings with regard to sophomore year credit ratio are shown in Table 5.41. With the exception of regular students, effects of remediation are observed for every high school average category among SEEK students. Thus, 35% of SEEK students who took no remediation in the freshman year earned a sophomore year credit ratio of at least .75. For all remedial categories, over 40% achieved this credit ratio. For level A.1 students those who took remediation in the fall only were about as likely to earn a .75 credit ratio in the sophomore year as those who took no remediation. Among level A.2 students, all remedial categories exceeded the non-remedial group in the proportions earning the .75 ratio. The effects noted above were not observed for the regular group.

The effects of remediation noted for the SEEK students also occur for the Non-SEEK group. However for the latter, they are less consistent. Thus, level B Non-SEEK students who took remediation in the fall only, were more likely to earn a .75 credit ratio than those who took no remediation at all. However, the other remedial categories were less likely to have earned this credit ratio. The level A.1 students who took remediation in the fall only and for both terms were about as likely as the non-remedial group to earn 75% of the credits they attempted. Level A.2 students who took remediation in the fall only were about as likely to reach the credit ratio level as those who had no remediation. This was not true for the other remedial groups. Among regular students, those who took remediation in the fall only or in the spring only were about as likely as the non-remedial group to reach the .75 level. This was not true for those who took remediation in both terms.

Non-SEEK regular students who took remediation showed more effects than did their SEEK counterparts. For the other categories, both groups showed remedial effects, but these appeared to be somewhat stronger for the SEEK students.

TABLE 5.41

Comparisons of SEEK and Non-SEEK Students: 2nd Year Cumulative Credit Ratio in Relation to First Year Remediation (Percent Earning .75 or More Credit Ratio)

LEVEL B

Remediation Category	SEEK		NON-SEEK	
	%	N	%	N
No Remediation	35	178	53	54
Rem. Fall Only	42	71	70	63
Rem. Spring Only	43	28	46	13
Rem. Both Terms	42	240	55	93
Total	40	517	60	223

TABLE 5.41

Comparisons of SEEK and Non-SEEK Students: 2nd Year Cumulative Credit Ratio in Relation to First Year Remediation (Percent Earning .75 or More Credit Ratio)

LEVEL A.1

Remediation Category	SEEK		NON-SEEK	
	%	N	%	N
No Remediation	47	123	70	352
Rem. Fall Only	44	75	68	278
Rem. Spring Only	50	34	46	35
Rem. Both Terms	39	168	66	253
Total	43	400	67	918

TABLE 5.41

Comparisons of SEEK and Non-SEEK Students: 2nd Year Cumulative Credit Ratio in Relation to First Year Remediation (Percent Earning .75 or More Credit Ratio)

LEVEL A.2

Remediation Category	SEEK %	SEEK N	NON-SEEK %	NON-SEEK N
No Remediation	49	71	79	1417
Rem. Fall Only	63	46	75	665
Rem. Spring Only	50	18	67	76
Rem. Both Terms	54	95	69	452
Total	54	230	76	2610

TABLE 5.41

Comparisons of SEEK and Non-SEEK Students: 2nd Year Cumulative Credit Ratio in Relation to First Year Remediation (Percent Earning .75 or More Credit Ratio)

REGULAR

Remediation Category	SEEK %	SEEK N	NON-SEEK %	NON-SEEK N
No Remediation	71	45	89	5877
Rem. Fall Only	59	27	87	1450
Rem. Spring Only	100	6	86	120
Rem. Both Terms	59	44	80	397
Total	66	122	88	7844

TABLE 5.41

Comparisons of SEEK and Non-SEEK Students: 2nd Year Cumulative Credit Ratio in Relation to First Year Remediation (Percent Earning .75 or More Credit Ratio)

NO HIGH SCHOOL AVERAGE

Remediation Category	SEEK		NON-SEEK	
	%	N	%	N
No Remediation	39	31	73	179
Rem. Fall Only	54	11	74	39
Rem. Spring Only	33	6	25	8
Rem. Both Terms	46	28	79	19
Total	43	76	72	245

2. First semester credits attempted in relation to sophomore year academic performance: 1970 freshmen. Among students who took restricted credit loads at the beginning of their college careers, are there any discernible effects on their academic performance during the second year of college? The data are presented in Tables 5.42, 5.43, and 5.44.

The relationship between credits attempted in the first semester and grade point average in the sophomore year is shown in Table 5.42. For level B SEEK students the probability of achieving a C average in the sophomore year was the same for all credit attempted categories. For the level B Non-SEEK students, those who began college registering for less than 8 credits did almost as well on GPA as those who registered for 8-11.99 credits.

Level A.1 SEEK students who registered for less than 8 credits were as, or more likely than the other credit categories to earn a C average in the sophomore year. This implies some benefit to restricted credit load for this group. For the Non-SEEK level A.1 students, those who registered for less than 8 credits were just as likely to earn a C average as those who registered for 8-11.99 credits. This may also be construed as an effect of credit load restriction. However, those who registered for 12 or more credits were considerably more likely to have earned a C average. Thus, although some effect is noted for Non-Seek group, it is not a powerful one.

For level A.2 SEEK students, those whose initial credit load was moderately restricted (the 8-11.99 group) were as likely to earn a C average as those who attempted 12 or more credits in their first semester. For the Non-SEEK level A.2 students, no effects of restricted credit load are discernible.

For regular SEEK and Non-SEEK students there are no discernible benefits of restricted credit loads.

In short, the restriction of credits in the first semester of the freshman year seems to have some effect on the attainment of a C average in the sophomore year. Such effects were more visible for SEEK students.

TABLE 5.42

Comparison of SEEK and Non-SEEK Students: Second Year Cumulative Grade Point Average in Relation to Credits Registered in Fall 1970 Semester (Percent above 2.00 G.P.A. in Both Terms of Second Year)

LEVEL B

	SEEK		NON-SEEK	
Credits Registered	%	N	%	N
Less than 8	23	254	13	39
8-11.99	22	148	15	72
12 or More	23	115	29	112
Total	22	517	22	223

TABLE 5.42

Comparison of SEEK and Non-SEEK Students: Second Year Cumulative Grade Point Average in Relation to Credit Registered in Fall 1970 Semester (Percent above 2.00 G.P.A. in Both Terms of Second Year)

LEVEL A.1

	SEEK		NON-SEEK	
Credits Registered	%	N	%	N
Less than 8	30	165	33	91
8-11.99	25	123	31	227
12 or More	29	112	45	600
Total	28	400	41	918

TABLE 5.42

Comparison of SEEK and Non-SEEK Students: Second Year Cumulative Grade Point Average in Relation to Credit Registered in Fall 1970 Semester (Percent above 2.00 G.P.A. in Both Terms of Second Year)

LEVEL A.2

	SEEK		NON-SEEK	
Credits Registered	%	N	%	N
Less than 8	33	72	35	132
8-11.99	38	79	47	499
12 or More	38	79	59	1979
Total	36	230	55	2610

TABLE 5.42

Comparison of SEEK and Non-SEEK Students: Second Year Cumulative Grade Point Average in Relation to Credit Registered in Fall 1970 Semester (Percent above 2.00 G.P.A. in Both Terms of Second Year)

REGULAR

	SEEK		NON-SEEK	
Credits Registered	%	N	%	N
Less than 8	40	42	52	185
8-11.99	47	34	63	733
12 or More	54	46	81	6926
Total	47	122	78	7844

TABLE 5.42

Comparison of SEEK and Non-SEEK Students: Second Year Cumulative Grade Point Average in Relation to Credit Registered in Fall 1970 Semester (Percent above 2.00 G.P.A. in Both Terms of Second Year)

NO HIGH SCHOOL AVERAGE

	SEEK		NON-SEEK	
Credits Registered	%	N	%	N
Less than 8	30	30	58	12
8-11.99	25	28	39	31
12 or More	28	18	65	202
Total	28	76	62	245

The relationship between first semester credit load and cumulative credits earned during the sophomore year is presented in 5.43. Level B SEEK students who initially registered for 8-11.99 credits were the group most likely to earn at least 24 credits in their sophomore year. This suggests that for level B SEEK students, a moderate restriction of credit load was beneficial. For Non-SEEK level B students, the data suggest that more severe credit load restriction (less than 8) in the first term of college was helpful.

For level A.1 SEEK students, those who initially attempted less than 8 credits were just as likely to earn 24 or more credits in the sophomore year as those who had initially registered for 8-11.99 credits. Inasmuch as the former group had lower OAT scores, this suggests that the highly restricted credit load was helpful. No such effects were observed for the Non-Seek level A.1 students.

The only other effect of restricted credit load is observed for level A.2 SEEK students. Those who registered for 8-11.99 credits were almost as likely to earn 24 or more credits in their second year as those who registered for 12 or more credits.

In summary, restricted credit loads have some beneficial effects. These effects are noted more frequently for the SEEK group than the Non-SEEK students.

TABLE 5.43

Comparison of SEEK and Non-SEEK Students: Second Year Cumulative Credits Earned in Relation to Credits Registered in Fall 1970 Semester (Percent With 24 or More Credits)

LEVEL B

	SEEK		NON-SEEK	
Credits Registered	%	N	%	N
Less than 8	9	254	23	39
8-11	25	148	17	72
12 or More	16	115	34	112
Total	15	517	26	223

TABLE 5.43

Comparison of SEEK and Non-SEEK Students: Second Year Cumulative Credits Earned in Relation to Credits Registered in Fall 1970 Semester (Percent With 24 or More Credits)

LEVEL A.1

	SEEK		NON-SEEK	
Credits Registered	%	N	%	N
Less than 8	21	165	24	91
8-11	20	123	33	227
12 or More	29	112	46	600
Total	23	400	41	918

Table 5.44 presents data regarding the relationship between first semester credits attempted and second year cumulative credit ratio. For level B SEEK students, the group most likely to have earned a .75 credit ratio in the sophomore year were those who registered for 8-11.99 credits in the first semester of their freshman year. Those who registered for less than 8 credits were as likely to attain a .75 credit ratio as those who registered for 12 or more credits. Thus, by the second year there appeared to be some positive effects from the initial restricted credit load. For level B Non-SEEK students no such effects are apparent.

For level A.1 SEEK students, those who initially attempted less than 8 credits were almost as likely to have a .75 credit ratio as those who initially registered for 12 or more credits. Among the Non-SEEK group, those who registered for less than 8 credits were almost as likely to achieve this credit ratio as those who registered for 8-11.9 credits.

Among level A.2 SEEK students, there are no differences in the proportions earning a .75 sophomore year credit ratio. Again, this indicates that the initial restricted credit load does seem to have some positive effect in the second year of college. This is not the case for Non-SEEK students.

Regular SEEK students who registered for less than 8 credits were more likely to earn a .75 credit ratio than those registering for 8-11.99 credits. No such effects are noted for the Non-SEEK regular students.

On the basis of these results, we conclude that the policy of restricted credit load seems to have been significantly more beneficial for SEEK students than their Non-SEEK peers.

TABLE 5.44

Comparison of SEEK and Non-SEEK Students: Second Year Cumulative Credit Ratio in Relation to Credits Registered in Fall 1970 Semester (Percent with .75 or Better)

LEVEL B

	SEEK		NON-SEEK	
Credits Registered	%	N	%	N
Less than 8	39	254	46	39
8-11.99	43	148	54	72
12 or More	37	115	70	112
Total	40	517	60	223

TABLE 5.44

Comparison of SEEK and Non-SEEK Students: Second Year Cumulative Credit Ratio in Relation to Credits Registered in Fall 1970 Semester (Percent with .75 or Better)

LEVEL A.1

	SEEK		NON-SEEK	
Credits Registered	%	N	%	N
Less than 8	44	165	55	91
8-11.99	38	123	60	227
12 or More	47	112	72	600
Total	43	400	67	918

TABLE 5.43

Comparison of SEEK and Non-SEEK Students: Second Year Cumulative Credits Earned in Relation to Credits Registered in Fall 1970 Semester (Percent With 24 or More Credits)

LEVEL A:2

	SEEK		NON-SEEK	
Credits Registered	%	N	%	N
Less than 8	15	72	27	132
8-11	33	79	42	499
12 or More	37	79	58	1979
Total	29	230	53	2610

TABLE 5.43

Comparison of SEEK and Non-SEEK Students: Second Year Cumulative Credits Earned in Relation to Credits Registered in Fall 1970 Semester (Percent With 24 or More Credits)

REGULAR

	SEEK		NON-SEEK	
Credits Registered	%	N	%	N
Less than 8	19	42	35	185
8-11	38	34	54	733
12 or More	56	46	77	6926
Total	38	122	74	7844

TABLE 5.43

Comparison of SEEK and Non-SEEK Students: Second Year Cumulative Credits Earned in Relation to Credits Registered in Fall 1970 Semester (Percent With 24 or More Credits)

NO HIGH SCHOOL AVERAGE

	SEEK		NON-SEEK	
Credits Registered	%	N	%	N
Less than 8	17	30	25	12
8-11	14	28	35	31
12 or More	33	18	61	202
Total	20	76	56	245

TABLE 5.44

Comparison of SEEK and Non-SEEK Students: Second Year Cumulative Credit Ratio in Relation to Credits Registered in Fall 1970 Semester (Percent with .75 or Better)

LEVEL A.2

	SEEK		NON-SEEK	
Credits Registered	%	N	%	N
Less than 8	53	72	55	132
8-11.99	56	79	67	499
12 or More	53	79	80	1979
Total	54	230	76	2610

TABLE 5.44

Comparison of SEEK and Non-SEEK Students: Second Year Cumulative Credit Ratio in Relation to Credits Registered in Fall 1970 Semester (Percent with .75 or Better)

REGULAR

	SEEK		NON-SEEK	
Credits Registered	%	N	%	N
Less than 8	64	42	59	185
8-11.99	59	34	78	733
12 or More	72	46	90	6926
Total	66	122	88	7844

TABLE 5.44

Comparison of SEEK and Non-SEEK Students: Second Year Cumulative Credit Ratio in Relation to Credits Registered in Fall 1970 Semester (Percent with .75 or Better)

NO HIGH SCHOOL AVERAGE

	SEEK		NON-SEEK	
Credits Registered	%	N	%	N
Less than 8	50	30	50	12
8-11.99	39	28	55	31
12 or More	39	18	76	202
Total	43	76	72	245

SUMMARY

This chapter has compared SEEK and Non-SEEK students with regard to academic performance, retention, and effects of compensatory education programs. Such comparisons are subject to certain serious limitations, for this reason, the analyses must be regarded as only preliminary. First, the SEEK population contains higher proportions of economically disadvantaged students than the Non-SEEK population. Second, there is an important academic difference; namely, that at any level of high school average, SEEK students exhibit lower academic skill levels than their Non-Seek counterparts. Therefore, in evaluating the comparative performance of the two groups, we believe that parity in performance would be a favorable outcome for the SEEK group. Given their initially lower level of academic skill and the more intensive services which they receive, this should, if successful, allow SEEK students to do as well as their economically less disadvantaged and academically more skilled Non-SEEK counterparts.

During the freshman year of college, SEEK students who entered in 1970 (particularly level B's and A.1's who account for most of this group) were superior to the non-SEEK group in the proportions achieving a C average. Their credit ratios were also comparable, but the credit earning performance of the SEEK students was substantially below that of the Non-SEEK students. In large part the difference in credit generation is attributable to the fact that SEEK students are, initially, much more likely to take restricted credit loads. The freshman year data for the 1971 group suggest the same conclusion, except that the difference in credit productivity is smaller (due probably to the fact that 1971 non-SEEK freshmen were more likely to have credit restrictions than was the case in 1970).

When we followed the academic performance of the 1970 freshmen through the first two years of college, we found again that for the level B and level A.1 SEEK students who constitute the bulk of the students in the program, the likelihood of attaining a C average over the period was about the same as for the Non-SEEK students. However, the SEEK group was less likely to have a .75 credit ratio, and substantially less likely to have earned 48 or more credits over the period. However, our trend analyses also show that in the second year of college, SEEK students attempted more credits than they did in their freshman year, and that their credit earning performance in the sophomore year was not as far below the Non-Seek students as it was in the freshman year. Indeed, SEEK students increased their credit generating performance in their sophomore year, while the non-SEEK students showed a slight decrease.

The retention data showed that during the freshman year of college, the one semester retention of SEEK students was equivalent to that of the Non-SEEK group. This was true for both the 1970 and 1971 cohorts. Inasmuch as the SEEK group has those characteristics which would lead one to expect lower retention rates, this is a favorable outcome. Retention was positively associated with academic performance for both the SEEK and Non-Seek students.

Over the period of four semesters for the 1970 freshmen, we found that the net retention rates for SEEK students were slightly higher than for Non-SEEK students (with the exception of regular students, where there is a slight difference in favor of the Non-SEEK group). Among dropouts, the SEEK return rates were slightly higher than the Non-SEEK rates.

Compensatory outcomes were compared in terms of two factors: remediation and restricted credit load. Remedial coursework in the freshman year showed little effect on the first year academic performance of SEEK students in the 1970 cohort. In contrast, some effects were noted for the Non-SEEK students. For the 1971 freshmen the remedial experience did show effects on academic performance for both groups, but the effects were somewhat stronger for the SEEK students. With regard to one semester retention, SEEK and Non-SEEK students in both cohorts were helped by the remedial experience.

With regard to restricted credit load, there were some effects for the 1970 freshmen, and these were more likely to occur for SEEK than for Non-SEEK students, but overall, credit restriction did not exert any strong effects on academic performance. However, there were some indications that credit load restriction increased the likelihood of retention. This effect occurred more strongly for SEEK students. For the 1971 freshmen, the only effects were noted for retention. For both SEEK and Non-SEEK students, this occurred with moderate, rather than severely restricted credit load.

Overall, we feel that there were no dramatic effects of compensatory programs which were visible during the freshman year. However, it may be inappropriate to expect that the benefits of such experience will be visible during the period in which it is actually occurring. Therefore, we think a more strategic analysis involves the assessment of the effects of freshman year compensatory programs on academic performance in the sophomore year. These analyses showed that compensatory experience does have visible effects on academic performance. Moreover, they indicate that these effects are stronger for the SEEK students than for the Non-SEEK group.

These results are not definitive. In some respects SEEK students are doing considerably better than the non-SEEK students.

In particular the compensatory experience of the first year shows stronger effects for the SEEK group in the sophomore year. On the other hand, the Non-SEEK students earned credits at a faster rate. However, this is neither surprising nor disappointing, since the initial academic disadvantage of the SEEK students has led more often to restricted credit loads in the first year of college.

Overall, it is our belief that the SEEK students were doing quite well in comparisons with their Non-SEEK peers. More definitive conclusions must await the analyses of academic outcomes for subsequent semesters.

INTRODUCTION

This report has considered numerous aspects of student academic performance over the first two years of the City University's open admissions program. Freshmen who enrolled in 1970 and in 1971 were studied. The 1970 group were followed through their first four semesters, while the 1971 enrollees were followed for two semesters. Senior and community college students were analyzed separately. Data were also presented for individual colleges.

Four major topics were considered. First, we assessed the performance of students on criteria of academic success, such as grade point average and the production of credits. Second, we analyzed the phenomena of retention. Third, we assessed the impact of compensatory programs. Fourth, academic outcomes for SEEK and non-SEEK students were compared.

All analyses were carried out within high school average (College Admissions Average) categories. These categories and their definitions are as follows:

	LEVEL	
High School Average	Senior College Label	Community College Label
80 or above	Regular	Regular 2
75 - 79.9	Level A.2	Regular 1
70 - 74.9	Level A.1	Level A
Less than 70	Level B	Level B

ACADEMIC SUCCESS

Two types of academic performance analyses were conducted for senior and community college students. First, the 1970 and 1971 enrollees were compared on various measures of academic success in their first year of college. Second, academic performance over two years was described for the 1970 freshmen.

For both analyses, four academic measures were used: 1) Grade Point Average; 2) Credit Generation; 3) Credit Ratio; 4) Grade Point Average and Credit Ratio Considered Simultaneously. The "success" criteria were set as follows:

Performance Variable	One Year Analyses	Two Year Analyses
Grade Point Average	% with 2.00 or better	% with 2.00 or better
Credit Generation	% earning 24 or more credits	% earning 48 or more credits
Credit Ratio	% earning at least 3/4 of credits attempted	% earning at least 3/4 of credits attempted
Credits & Grade Point Average Considered Simultaneously	2.00 or more GPA & 24 or more credits	2.00 or more GPA & 48 or more credits

Aggregate findings for the one year analyses are summarized for the senior colleges in table 6.0 and for the community colleges in table 6.1. For the senior colleges, table 6.0 indicates that high school average was positively related to every performance measure. That is, the higher the average, the greater the likelihood that students would equal or exceed the minimal success criteria. With regard to grade point average and credit ratio, the performance of the 1970 and 1971 freshmen was quite stable -

no significant changes were observed for the two classes. This was not true for the credit generation variable. Here we note significant decreases for every level of student (except regular) in the 1971 cohort. This is due to the more systematic implementation of the policy of reduced credit loads in 1971. As a result of this policy, a smaller proportion of 1971 freshmen simultaneously earned 24 credits and at least a 2.00 grade point average.

TABLE 6.0

Summary of One Year Academic Performance Analyses:
Comparison of 1970 and 1971 Enrollees (Senior Colleges)

LEVEL

Performance Measure	B		A.1		A.2		Regular	
	70	71	70	71	70	71	70	71
Grade Pt. Average	33% (349)	32% (390)	43% (1282)	44% (1444)	65% (3360)	63% (3090)	87% (9196)	87% (8557)
Credits Earned	20% (352)	7% (293)	34% (1291)	21% (1460)	51% (3371)	41% (3095)	76% (9203)	74% (8567)
Credit Ratio	53% (336)	56% (283)	65% (1266)	67% (1418)	79% (3327)	78% (3095)	92% (9162)	92% (8506)
Credits Earned & Grade Pt. Average	13% (349)	5% (290)	23% (1282)	16% (1444)	43% (3360)	36% (3090)	71% (9196)	71% (8557)

Among the community college students, table 6.1 shows that for every increase in high school average, there is an increase in the proportion of students attaining each success criterion. With regard to comparison of the 1970 and 1971 freshmen, no large differences were found. By and large, the picture is one of consistency.

TABLE 6.1

Summary of One Year Academic Performance Analyses: Comparison of 1970 and 1971 Enrollees (Community Colleges)

LEVEL

Performance Measure	B		A		Regular 1		Regular 2	
	70	71	70	71	70	71	70	71
Grade Pt. Average	44% (2054)	44% (1553)	57% (2471)	60% (2081)	72% (1818)	75% (1700)	86% (852)	89% (831)
Credits Earned	27% (2058)	25% (1560)	39% (2472)	39% (2087)	54% (1820)	48% (1701)	68% (852)	64% (832)
Credit Ratio	75% (1993)	70% (1486)	83% (2417)	80% (2033)	87% (1792)	88% (1676)	94% (844)	94% (828)
Credits Earned & Grade Pt. Average	20% (2054)	20% (1553)	32% (2471)	34% (2081)	49% (1818)	45% (1700)	66% (852)	62% (831)

CHAPTER 6

SUMMARY

Aggregate findings for the two year analyses (1970 freshmen) are presented in table 6.2.

TABLE 6.2

Summary of Academic Performance Analyses After Two Years
for Senior and Community College Students
Who Enrolled in Fall, 1970.

Type of College

	Sr.	Comm.	Sr.	Comm.	Sr.	Comm.	Sr.	Comm.
	Level		Level		Level		Level	
Performance Measure	B	B	A.1	A	A.2	REG1	REG.	REG.2
Grade Point Average	35%	48%	50%	66%	70%	82%	90%	93%
Credit Generation	25	36	39	50	55	65	79	79
Credit Ration	65	75	72	88	82	92	93	98
Credit & GPA	17	29	30	44	48	62	76	78

The summary findings show that for any variable, high school average is positively associated with performance. That is, the stronger the high school average, the stronger the performance record in college. Moreover, for every level of high school average, community college students were more likely to achieve the success criteria than their senior college counterparts.

The only exception to this occurred for the Regular (senior) and Regular 2 (community) students, where the performance levels were essentially the same.

The aggregate data tend to mask the fact that there is considerable institutional variation. That is, at some colleges students were much more likely to achieve various success criteria than at other campuses. While there were variations depending on the particular high school average category being considered, in general senior college students at Lehman, Brooklyn, and York were the most likely to attain the thresholds defined by our success criteria. Among the community college, students at Kingsborough and Borough of Manhattan Community College made the strongest showing.

The individual college data do not lend themselves to easy interpretation. At colleges where students are doing relatively well, one cannot assume that such campuses are necessarily doing a better job. Differences in the composition of the student body, possible differences in academic standards, effects of differential retention rates, and differences in grading policies may, alone or in combination, explain differences in student academic performance. Nevertheless, the data clearly indicated that student progress towards a degree varied considerably from one college to another.

Retention

Retention data were considered for the first two freshmen classes entering CUNY since the inception of open admissions. These classes were first compared with regard to one semester retention rates, and the relation of these rates to various characteristics of student academic performance. Also, analyses of retention over four semesters were conducted for 1970 enrollees.

Among the senior colleges, table 6.3 shows that retention after one semester was positively associated with high school average. That is, students with high school averages of above 80 had higher retention rates than students with averages below 70. Furthermore, the data show almost no change between the 1970 and 1971 cohorts in the proportions returning for the second semester of the freshman year.

TABLE 6.3

Comparison of 1970 and 1971 Cohorts: Retention Rates After One Semester by High School Average (Senior and Community Colleges)

High School	SENIOR COLLEGES		COMMUNITY COLLEGES	
Average	1970	1971	1970	1971
80+	93% (9952)	92% (9294)	80% (1067)	85% (915)
75 - 79	88% (3845)	87% (3582)	81% (2258)	84% (2036)
70 - 74	86% (1508)	86% (1703)	79% (3163)	80% (2618)
Less than 70	81% (434)	83% (352)	76% (2774)	77% (2031)
TOTALS*	91% (15,739)	90% (14,931)	79% (9262)	81% (7600)

* Students with no high school average excluded.

In general, academic performance of senior college students during the first semester of the freshman year was positively associated with retention. Students who achieved at least a 2.00 average, who earned 12 or more credits, and who earned at least 75% of the credits they attempted, were more likely to return for their second semester than students who failed to achieve these criteria. Of all academic indices, credit ratio was most closely related to retention. All academic performance indices seem to be more closely related to retention than high school average itself. That is, students who failed to meet the minimal performance criteria (2.00 GPA, 12 or more credits, .75 credit ratio) were about as likely to drop out whether they were level B, level A.1, level A.2, or regular. In general, the relation between performance criteria and retention was the same for both the 1970 and 1971 cohorts.

Among the community colleges, table 6.3 shows that one semester retention was positively associated with high school average, but to a somewhat lesser degree than for the senior colleges. The data also show almost no change in one semester retention, when the two cohorts are compared. The only exception to this occurred for the students with less than 70 high school averages, where there was a slight increase for the 1971 cohort.

Academic performance in community colleges was more closely related to retention than high school average. That is, how a student did in his first term was a better predictor of retention than his high school performance. Among the students who did not meet the minimum performance criteria, retention was lower in 1971 than in 1970 for two of the three performance indices. The performance variable most closely related to retention was the credit ratio. In general, the likelihood of dropout was greatest among regular 2 students whose academic performance was weak in the first semester.

Among the freshmen who entered CUNY in Fall, 1970, table 6.4 shows that approximately 70 percent were enrolled in CUNY during Spring, 1972, the fourth semester since their original enrollment. At the senior colleges, more than 75 percent were in attendance during the fourth semester; this was true for about 60 percent of the students from the community colleges. At both, high school average (College Admissions Average), was positively associated with retention.

TABLE 6.4

Net Retention Rates for Senior and Community Colleges by High School Average Fall 1970 Freshman Class Through Four Semesters

High School Average (CAA)	Senior Colleges	Community Colleges	Total CUNY
80+	82% (10,030)	69% (1067)	81% (11,097)
75-79	73% (3845)	67% (2831)	70% (6676)
70-74	68% (1976)	60% (3900)	63% (5876)
Less than 70	59% (806)	56% (3598)	56% (4404)
No H.S. Ave.	67% (423)	58% (1255)	60% (1678)
TOTAL	77% (17,080)	61% (12,651)	70% (29,731)

Among students who left college, 18 percent returned and were present for the fourth semester. While students who left community colleges were more likely to return than those from senior colleges, the differences were quite small.

With regard to net retention rates, there was considerable variation among the colleges of CUNY. There was even more variation in the rates of return.

The CUNY net retention data over four semesters were compared with national data (Astin, 1972). Unfortunately, the national data do not contain retention rates for the four semester period. Rather, they cover a longer period, eight semesters. Keeping in mind the time difference between the two studies, it is reasonable to make comparisons. These would simply indicate the "distance' of CUNY retention figures after two years from the national figures after four years. As table 6.5 indicates, considerably more attrition will have to occur before the CUNY net retention rate approaches the threshold defined by the national data.

TABLE 6.5

High School Average and Retention: Comparison of National and CUNY Data

High School Average	2 Year Colleges		4 Year Colleges	
	National*	CUNY**	National*	CUNY**
80+	46	69	63	82
75-79	41	67	48	73
70-74	31	60	38	68
Less Than 70	29	56	38	59

* Retention rates for eight semesters (Source: Astin, 1972, pp.20,22)

** Retention rates for four semesters

Effects of Compensatory Programs

When CUNY began its open admissions program, it anticipated that substantial numbers of students would be deficient in basic academic skills. Accordingly, each campus was to have developed compensatory programs whose aim was to upgrade skills. Presumably, this would increase the chances that students would be able to complete successfully a course of study leading to a degree. Moreover, the compensatory effort was seen as a major factor in avoiding the revolving door (high attrition rates) which had characterized open admissions programs in other places.

While every campus was supposed to develop some compensatory program structure, the specifics of implementation were left to the discretion of each campus. The result was considerable variation in styles of response. Nevertheless, in almost every case the compensatory effort involved at least two basic components:

(1) Formal remedial courses (which initially offered little or no credit); (2) A policy of reduced credit loads during the freshman year (whose intent was gradually to ease students with weak preparation into the mainstream of college work).

We have assessed the relationship between these two components and student academic performance. The measures of academic performance were grade point average, credit generation (in the sophomore year), credit ratio, and retention.

The assessment criteria were as follows: Remediation was considered to be effective if, within any category of high school average, those who received it performed as well, or better than those who did not receive it. Reduced credit loads were considered effective, if those who attempted less than 12 credits in a semester (or less than 24 in a year) performed as well, or better than those not on reduced loads. This criterion makes an important assumption: that those taking remediation or reduced credit loads had lower levels of academic skills as measured by the Open Admissions Test (OAT). If the assumption holds, then if remedial students equal the performance of non-remedials, this suggests that remediation was effective. By and large the assumption is correct, since our comparisons of remedial and non-remedial students show that the former usually do, in fact, have lower OAT scores.

We have first considered the extent of need for remedial services and the delivery of these services. As one would expect, the need for remediation (as measured by the OAT) is closely associated with high school average. Moreover, the need was slightly greater for the 1971 freshmen than for the 1970 group. At the senior colleges, over 80% of level B Students needed some form of remedial work. Among level A.1 students 53% (in 1970) and 66% (in 1971) needed remedial work. For level A.2 students 31% (in 1970) and 39% (1971) required such work, while less than 15% of regular students showed a need for at least some remediation.

At the community colleges, the need for remediation was greater than for the senior colleges, with the exception of level B students, where the need was greater at the latter.

At the senior colleges, the proportion of students receiving remedial services exceeded the proportion defined as needing it. The one exception to this finding occurred for level B students, where the proportion needing compensatory work exceeded the proportion receiving it. The proportion receiving remedial work was greater in 1971 than in 1970.

At the community colleges, the proportion of students receiving remediation was less than the proportion needing it (as defined by the OAT). In general community college students were less likely to receive remediation than those at senior colleges.

For both senior and community colleges, there was considerable variation from campus to campus in the proportions needing remedial work. There was also considerable variation in the proportions doing such work.

Various sets of analyses were conducted in an effort to assess the relationship of remedial and credit load experience to academic outcomes. The first set of analyses considered compensatory work and academic outcomes during the freshman year.

For the senior colleges, remediation seems to have been a mixed success during the freshman year. That is, while remedial experience did not always show positive effects upon academic performance, neither did it fail to show any effects. Moreover, the record of success varied from college to college. The evidence also suggests that remediation seemed somewhat more effective in the second year of open admissions than it was in the first year. This may be interpreted as an indication of progress.

With regard to reduced credit loads, the evidence indicates only a few instances in which senior college students who took reduced loads performed as well as those who attempted a full number of credits. In particular, level B students in 1971 who took reduced loads approximated the performance of those not restricted.

Insofar as retention is concerned, senior college students who took remedial work in their first term of college were as likely to continue for their second semester as those who took none. In short, the remedial experience had some positive effect on student retention. The relation of credit load restriction on retention after one semester is as follows: Students who took "moderately" reduced loads (between 8-11.99 credits) were about as likely to return for the second term as those who took full loads. However, those who took severely reduced loads (less than 8 credits) were less likely to be retained for the second semester than those who took full loads.

At the community colleges we have found numerous instances in which remediation seemed to improve student academic performance. These occurred for every college, but overall, the college where these effects occurred most frequently was Kingsborough.

By and large, the community college results regarding the effects of reduced credit loads were not encouraging. Very few instances of positive effects were noted. These few positive effects were limited primarily to comparisons of those on severely reduced loads with those on moderately reduced loads. That is, the former sometimes performed as well as the latter. However, students on reduced loads almost never compared favorably with those on full loads.

With regard to retention, the findings for the community colleges are similar to those observed for the senior colleges. Remediation increased the one semester retention rates. Moderately reduced credit loads seemed to have some positive effect on retention, but the retention of students who took severely restricted loads was lower than the retention for unrestricted students in the same category of high school average.

We believe that the most strategic approach to analysis of the effects of compensatory programs is to look at academic effects of the programs after they have occurred, rather than simultaneously with their occurrence, as in the first set of analyses.

For the senior colleges, the aggregate analyses showed little evidence that remediation in the freshman year had any effects on academic performance in the sophomore year. However, it is very important to note that these overall findings are misleading. They mask the fact that positive effects of remediation were noted at certain individual campuses. Particularly at Baruch, City College, and York, it appears that the remedial experience of the freshman year generated visible effects on the academic achievement of students in their sophomore year.

With regard to reduced credit loads at the senior colleges, few positive effects on sophomore year performance were noted. At individual campuses, there were some effects. These occurred at Baruch, City College, Hunter, and York. In contrast with the analyses of remediation, the effects of reduced credit loads occurred less frequently on individual campuses.

For the community colleges our data suggest that the freshman remedial experience generated positive effects on academic performance in the sophomore year. Among individual colleges, Kingsborough was the campus where effects were most noteworthy. However, positive effects were noted for other colleges as well.

With regard to reduced credit load, the aggregate findings show almost no positive effect of reduced credit load on academic performance in the sophomore year. However, there are some instances of effects among individual campuses, particularly at Staten Island. However, in no case are the results as visible compared with the findings on the effects of remediation.

Those concerned with open admissions, both within and outside the University, would, undoubtedly, like now to have some clear-cut conclusions about the results of compensatory programs. It is impossible to provide these at this time. The data thus far indicate that while remediation is far from a failure, neither can it be said to have been an unqualified success. The reduced credit load policy is, using any criteria, less effective than remediation, but it would be unwarranted at this time to conclude that such a policy should be abandoned. Our analyses in this regard are rather imprecise. Any conclusions about the viability of the reduced credit load policy must await more precise studies which will shortly be undertaken.

We believe that the outstanding fact emerging from our research on compensatory programs, is the variability of results from one campus to another. We think that the discovery of what is being done on specific campuses to bring about positive effects, will, in the long run, provide a basis for modifications in open admissions implementation on all campuses. But this process is, by necessity, a slow one. Each campus has modified what it is doing from one year to another, and it takes time for research analyses to capture these changes and to assess them. In short, the evaluation of compensatory programs can only be a slowly unfolding story. At this moment, there is at least some evidence pointing to limited success in some places. Our future research efforts will be devoted to uncovering some of the reasons underlying the apparent successes.

Comparison of SEEK and Non-SEEK Students

We have compared SEEK and Non-SEEK students with regard to academic performance, retention, and effects of compensatory education programs. Such comparisons are subject to certain serious limitations and for this reason, the analyses must be regarded as only preliminary. First, the SEEK population contains much higher proportions of disadvantaged students than the Non-SEEK population. At any level of high school average, SEEK students exhibit lower academic skill levels than their Non-SEEK counterparts. Therefore, in evaluating the comparative performance of the two groups, we believe that parity in performance would be a favorable outcome for the SEEK group. Given their initially lower level of academic skill and the more intensive services which they receive, this should, if successful, allow SEEK students to do as well as their economically less disadvantaged and academically more skilled Non-SEEK counterparts.

During the freshman year of college, SEEK students who entered in 1970 (particularly level B's and A.1's who account for most of this group) are superior to the non-SEEK group in the proportions achieving a C average. Their credit ratios were also comparable, but the credit earning performance of the SEEK students is substantially below that of the non-SEEK students. In large part the difference in credit generation is attributable to the fact that SEEK students are, initially, much more likely to take restricted credit loads. The freshman year data for the 1971 group suggest the same conclusion, except that the difference in credit productivity is smaller (due probably to the fact that 1971 Non-SEEK freshmen were more likely to have credit restrictions than was the case in 1970).

When we followed the academic performance of the 1970 freshmen through the first two years of college, we found again that for the level B and level A.1 SEEK students who constitute the bulk of the students in the program, the likelihood of attaining a C average over the period was about the same as for the Non-SEEK students. However, the SEEK group was less likely to have a .75 credit ratio, and substantially less likely to have earned 48 or more credits over the period. However, our trend analyses also show that in the second year of college, SEEK students attempt more credits than they did in their freshman year, and that their credit earning performance in the sophomore year is not as far below the Non-SEEK students as it was in the freshman year. Indeed, SEEK students increased their credit generating performance in their sophomore year, while the non-SEEK students showed a slight decrease.

The retention data showed that during the freshman year of college, the one semester retention of SEEK students was equivalent to that of the Non-SEEK group. This was true for both the 1970 and 1971 cohorts. Inasmuch as the SEEK group has those characteristics which would lead one to expect lower retention rates, this is a favorable outcome. Retention is positively associated with academic performance for both the SEEK and Non-SEEK students.

Over the period of four semesters for the 1970 freshmen, we found that the net retention rates for SEEK students were slightly higher than for Non-SEEK students (with exception of regular students, where there is a slight difference in favor of the Non-SEEK group). Among dropouts, the SEEK return rates were slightly higher than the Non-SEEK rates.

Compensatory outcomes were compared in terms of two factors: remediation and restricted credit load. Remedial coursework in the freshman year showed little effect on the first year academic performance of SEEK students in the 1970 cohort. In contrast, some effects were noted for the Non-SEEK students. For the 1971 freshmen, the remedial experience did show effects on academic performance for both groups, but the effects were somewhat stronger for the SEEK students. With regard to one semester retention, SEEK and Non-SEEK students in both cohorts were helped by the remedial experience.

With regard to restricted credit load, there were some effects for the 1970 freshmen, and these were more likely to occur for SEEK than for Non-SEEK students, but overall, credit restriction did not exert any strong effects on academic performance. However, there were some indications that credit load restriction increased the likelihood of retention. This effect occurred more strongly for SEEK students. For the 1971 freshmen, the only effects were noted for retention. For both SEEK and Non-SEEK students, this occurred with moderate rather than severely restricted credit load.

Overall, we feel that there were no dramatic effects of compensatory programs which were visible during the freshman year.

However, it may be inappropriate to expect that the benefits of such experience will be visible during the period in which it is actually occurring. Therefore, we think a more strategic analysis involves the assessment of the effects of freshman year compensatory programs on academic performance in the sophomore year. These analyses showed that compensatory experience does have visible effects on academic performance. Moreover, they indicate that these effects are stronger for the SEEK Students than for the Non-SEEK group.

These results are not definitive. In some respects SEEK students are doing considerably better than the non-SEEK students. In particular, first year compensatory experience shows stronger effects in the sophomore year for the SEEK group, and their retention over four semesters is slightly higher. On the other hand, the Non-SEEK students earned credits at a faster rate. However, this is neither surprising nor disappointing, since the initial academic disadvantage of the SEEK students has led more often to restricted credit loads in the first year of college.

Overall, it is our belief that the SEEK students were doing quite well in comparisons with their Non-SEEK peers. More definitive conclusions must await the analyses of academic outcomes for subsequent semesters, and with better controls on certain variables such as socio-economic status.

Concluding Comments

Taking all of the above analyses into consideration, it is apparent that there is no simple answer to the question: Is open admissions a success? Clearly, there are some positive outcomes to be noted for each type of academic performance considered here. Nevertheless, the picture is not a consistent one. Positive outcomes are noted more frequently at some campuses than at others. We believe that more definitive conclusions about open admissions must, of necessity, await analyses of performance covering subsequent years of the program.

REFERENCES

1. Astin, Alexander W., College Dropouts: A National Profile, Washington, D.C.: American Council on Education, 1972.